

1995 LOWER COOK INLET FINFISH
AND
COOK INLET AND PRINCE WILLIAM SOUND
GROUND FISH AND SHELLFISH
STAFF MEETING



by

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INTRODUCTION

During 27 February to 3 March 1995, the Alaska Department of Fish and Game, Commercial Fisheries Management and Development Division, conducted the annual meeting of the Lower Cook Inlet (LCI) finfish and the Cook Inlet and Prince William Sound groundfish and shellfish staffs in the Conference Room of the Alaska Department of Fish and Game Regional Office in Anchorage, Alaska. This report summarizes results of the meeting for future reference. In some instances the topics reported here have been rearranged to provide greater continuity. Because the meeting was attended by staff with extensive background in the various research and management programs, extensive program details were not discussed and are not included in these minutes. Where possible, selected staff handouts have been included as appendices in this report. In some cases data provided at the meeting has been excluded from this report to protect vessel operator confidentiality in compliance with Alaska Statute 16.05.815. Individuals interested in greater detail on items included herein should refer to annual management or specific research reports.

Al Kimker recorded the minutes during the groundfish portion of the staff meeting.

ADMINISTRATION AND REVIEWS

Pre-audit

Brady identified LCI as within budget except for a need to AJE some enhancement funding. The purchase of Homer office replacement printer will depend upon pre-audit results. Bucher discussed the Chenik escapement deficit, previously funded by the ground survey budget; the 1.0 month weir survey provides Chenik program continuity and complements Limnology-funded smolt work. The use of aerial survey surplus from fall 1994 was also discussed. Bucher pointed out that the herring program starts with a deficit and is dependent upon successful test fishing for project funding.

Review of Previous Action Items

All action items assigned during the 1994 staff meeting were completed with the exception of:

1. A memo was initiated to Commissioner Rosier to document Cook Inlet resource concerns relative to the need for integrated hatchery planning. However, due to a subsequent transfer of the major CIAA cost-recovery project from Tutka to Grouse

Lake, the memo was not be sent pending future cost-recovery plans. Dudiak expressed concerns that we are losing some returns to Upper Inlet fisheries.

2. No action was taken on concerns over the allocation of Bear Lake returns between the common property fishery and CIAA brood stock; brood stock needs have not been met.
3. Bucher, working with B. Jackson, has assumed H. Yuen's duties to dispose of outdated computer equipment.
4. Florey's research revealed the Boat Officer II position will not be placed in the supervisory unit.
5. Kimker's research into guidelines for personal use of fish taken by staff aboard state vessels was drafted into a memo, but not submitted to the PPC. Further discussion indicated these guidelines may be appropriate as a regional vessel policy.

Commissioner's Comments

Commissioner Frank Rue queried staff on input while stressing the importance of communication, particularly between divisions and regions/areas, and to reduce advocacy through team-building. Rue also regards field staff as resource experts, well-equipped to provide input into department policy. Following Brannian's query, Rue suggested supervisors need to address staff attendance of professional meetings. Rue anticipates reassigning some Deputy Director funds to FBIIs and also identifying a position responsible for department coordination of Board and policy actions. General group discussion encouraged a closure on merger talks goals, etc. Regarding the future, Rue identified: 1) an approach to the legislature focusing on what can be done and an avoidance of objectives that cannot be achieved; 2) a need to develop creative funding sources; and 3) a need to fund some general fund programs out of DJ, etc., particularly since increasing sport fish source funds and decreasing general funds. In response to Dudiak's question about hatchery/sport fish enhancement production, Rue stated he is not opposed to hatcheries. Rue identified the following criteria to be considered given funding cuts: 1) statutory responsibilities; 2) heightened responsibilities, and 3) implications of management by another agency (e.g., DNR has culvert oversight but Habitat can address because of long-term resource impacts.

LOWER COOK INLET SALMON MANAGEMENT

Season Overview and Management Plans

Bucher distributed a summary of the projected 1995 returns. The potential exists for a large Tutka pink return (price may be \$0.15 for pinks) and a moderate sockeye return. Chum

fisheries primarily occur in Kamishak. Effort is unknown for 1995 although effort in 1994 was limited to ~50 active fishermen. Hammarstrom clarified that wild return projections are based on average annual harvests, except pinks which are based on spawner/recruit analysis.

Management strategies will be similar to previous years. West-side tender support is not anticipated; the lack of tenders in 1994 resulted in a total escapement of the Mikvik red return. The first Ursus sockeye returns are expected this year and an unknown; Bruin, the sister system, has previously produced a 5,000 fish return. The CIAA revenue goal of \$360-400,000 will guide Tutka cost-recovery. McNeil will be a slight management deviation by opening 1 June under two 48-hr periods/wk to target reds, but closing if any chums are caught.

Resurrection Bay will open Monday, 15 May, on two 40-hr periods/wk; a 40-hr period allows an evening tender return and removes the commercial fleet before the weekend sport fishery. Historically, little effort occurred prior to the third week of May. Because the 1994 late fishery encountered dark Tonsina chums, Resurrection will close earlier this year.

Chenik will remain closed with no cost recovery; we are seeing the IHN-infected return and might not get a 1,000 return following 808 last year.

This year, Port Dick may have a harvest of natural returns of pinks, but no sockeye and few chums are expected. The fleet remembers an earlier run timing, but the pinks now return in early to mid-August. Port Dick chums return earlier and are the focus of the Development section's spawning channel. The fleet will likely target Tutka pinks instead of Port Dick pinks, essentially creating a displaced fishery.

Field Projects

Markers

Hammarstrom reported the Outer District markers were overhauled in 1993 and seem to be in good shape; markers have been maintained through aerial or ground surveys. Following Hilsinger's query, Hammarstrom replied that scheduling a maintenance trip with the PANDALUS every 2-3 yr is probably not needed as long as annual upkeep is maintained. Although a helicopter may be available during herring, ground conditions at this time prevent long-term marker installation.

Mikfik Beaver Dams

At the end of 1994, Mikfik had three beaver dams which, if not removed, may prevent any escapement. Further discussion of beaver dam removal was tabled until Wildlife Conservation staff were present.

Lower Cook Inlet Salmon Enhancement

Dudiak related that LCI salmon enhancement has primarily focused on sockeye production with Crooked Creek Hatchery rearing most sockeye to the fry outplanting stage. Using a video backdrop, Dudiak ("Say, have you got a minute?") described the LCI enhancement projects.

Leisure Lake. The history of fry stocking density and fertilization shows a pre-fertilization decrease in fry-to-smolt size and survival (0.5-2.0 million fry) and a post-fertilization increase (2.0 million fry) with a shift back to a 2.0 g, primarily age 1.0, smolt. Adult returns support the commercial, PU, and sport fisheries.

Chenik Lake. Having greater euphotic volume than Leisure, Chenik has a slow water turnover which allows natural nutrient build-up (productivity hasn't benefitted from fertilization), and potentially exacerbates the IHN problem. Chenik yielded high catches in 1930-1940s, but was closed in the 1950s due to low returns. Subsequent to fish pass construction in 1984, a record 170,000 sockeye returned in 1988, followed by an IHN problem in 1990s which reduced returns to <1,000. Smolt size and IHN continue to keep fish returns down despite high zooplankton productivity. The escapement is now managed for <10,000 adults. Dudiak stressed the needs for a weir to monitor and regulate escapement, pathology sampling of adults, and smolt sampling; smolt sampling has been funded by Limnology. With no stocking, Chenik may see 8 g smolt in 1995.

Hazel Lake. As reflected in the lack of significant returns, emigrating smolt may suffer thermal shock going from the lake outlet to groundwater flow to the braided glacial McKuen River.

Kirschner Lake. Has produced 30-40,000 fish annually over the past few years.

Bruin and Ursus. High altitude lakes with a short growing system and limited production.

Paint River. The fish ladder (\$2.2 million construction cost) hasn't opened due to a lack of adult returns and lake trout and grayling predation may be limiting freshwater salmon production. The falls at the Lower Paint outlet were discussed as a migrational barrier.

English Bay. Dudiak suggested that all fish must be raised to pre-smolt size to avoid

competition with natural production. This project is working with a 600-700,000 pre-smolt production.

Windy Bay Pre-emergent Sampling. This would primarily address a habitat issue by collecting post-logging assessment data. We have some EVOS studies as pre-logging assessment data, and could also sample Port Dick and or Port Graham. A potential discussion of the importance of woody debris on spawning versus rearing habitat for pinks versus coho, etc. was tabled until 28 March.

Port Dick Spawning Channel. This EVOS project has been temporarily discontinued pending a peer-review held in January as Spies suggested new project criteria. The genetic effects were previously addressed; Dudiak is working on the mixed-stock fishery aspects, which is primarily a post-migration problem, and also on the Environmental Impact Assessment. The channel will cost ~\$100,000 to construct, with an additional \$100,000 in operating costs over four years. State Parks is pursuing cabin removal due to archaeological site importance. Hilsinger expressed a willingness to "...go to the mat...." to retain the presence of the Port Dick cabin.

Sport Fish Enhancement

Sport Fish Funding. Dudiak reported his funding is still intact and he will potentially be funded until formal retirement. Broodstock for Kenai Peninsula sport fish enhancement will be collected from this year's Homer Spit return.

Caribou Lake. Caribou Lake does not qualify for DJ funding. Dudiak is researching raceway space, coho availability, and transport costs of \$1,000 if stocked from Fort Richardson versus \$4-5,000 if stocked from Crooked Creek. As part of the project evaluation, Sport Fish should know by mid-March whether \$1,000 in F&G funds can be provided toward transport costs. It may be worth trying to get CIAA to adopt this project as a benefit to LCI.

Subsistence/Personal Use Fisheries

Southern District Subsistence Gillnet Fishery. Hammarstrom reported 286 permits were issued in 1994, marking the lowest total since 1977. However, a similar number of permits was actually fished each of the last three years. Continuing a closure determination based on inseason, voluntary catch reporting, last year's season lasted a total of 72 hours. The coho catch of 4,100 fish slightly exceeded the guideline, but was deemed acceptable due to the run strength. F&WP was supportive in addressing violation and public altercations over fishing sites, particularly on the Homer Spit. Hammarstrom stated in 1994, "There was a virtually

100% violation rate on the Spit." F&WP suggested requiring the permit holder to attend the net at all times, similar to Upper Inlet regulations. However, Hammarstrom felt such a requirement would not necessarily address the problem of setting nets too close, and would result in an allocative change because people maintaining jobs could not always attend their nets. Also, if Caribou Lake is not stocked, the fishery may take three weeks to reach 2,500-3,500 guideline harvest level. Hilsinger suggested making minimum spacing distance a condition of the permit for clarification at the time of permit issuance.

China Poot PU Dip Net. Dudiak reported Sport Fish will submit a Board proposal to change the personal use dip net season closure date to 7 August. This change would allow a greater harvest of sockeye while still protecting the natural pink run.

Hatcheries

BMPs/AMPs/PARs/RRDBs(&XYZs). Simpson will issue a memo describing a meeting to delineate her and Dudiak's duties. Basically, area staff will oversee AMPs with the RRDB providing regional coordination. Brady stressed a need to maintain control over AMPs while being responsive to PNP desires; the department will maintain AMP word processing for greater control of inclusions and deletions. Simpson added that AMPs should include contingency plans for inseason management changes due to run strength. Dudiak will draft AMPs for Port Graham and Tutka for this year. Staff should review Crooked Creek and Trail Lake AMPs for future modification and as a basis for 1995 operations. The incorporation of all facility AMPs under a single cover was suggested (also suggested last year), particularly if CIAA stresses a corporate revenue goal. CIAA is now operating on facility revenue goals; LCI facility AMPs include Trail Lakes, Crooked Creek, and Port Graham. Simpson will compile brood tables for the AMPs.

PNP Oversight. Bucher questioned the existing oversight and control of PNPs, particularly stocking densities, and identified the lack of oversight for compliance with permit requirements and AMP guidelines. As a general consensus, Simpson would be responsible for documenting poor compliance. Simpson reported on a request received from Larry McCubbins for a 1.0 million sockeye project at Scurvy Creek, but pointed out McCubbins had been asked to rewrite portions of the proposal.

Cost Recovery. Bucher reported cost recovery operations are likely at Kirschner, China Poot, Hazel, and Tutka. In reality, cost recovery needs depend upon fish prices and not necessarily on the number of fish. The harvest split between cost-recovery and common-property fish is not currently identified in LCI regulation. Bucher would like to see cost recovery plans modified to establish a waiting period between achievement of cost-recovery goals and the common property fishery opening. In a new option for CIAA cost-recovery at Tutka, the "Cabana Plan" would use three to four boats, contracted at \$0.03/lb, to catch

better quality fish outside of Tutka. CIA is also evaluating the establishment of an independent, non-regional, PAP corporation. No cost-recovery will occur at Port Graham this year as all of the projected return will be used for broodstock.

The Bear Lake escapement goal is 5-8,000, but if all fish are used for hatchery broodstock, will any natural spawning occur? Bear Lake has been rotenoned twice, so "natural spawning" is subject to interpretation. Fish spawn at 40' depth, making broodstock collection difficult. From the weir passage, which provides the only escapement data, 1,000 need to be reserved for a natural spawning goal (BEG). Simpson will incorporate a 1,000 BEG into the AMP. The AMP needs to reflect that weir passage should include broodstock needs plus 1,000 BEG, with the 1,000 being a 50:50 male:female ratio.

LCI Salmon Research

Fried reported the three budgets essentially balanced out in the pre-audit. Bucher discussed the activation of G. Demers on 3 April to fiberglass the Whaler, which drained all winter in the shop; the pre-audit needs to reflect three man-months for Demers.

PAR/Enhancement. Dudiak will continue to produce PAR forecasts. Dudiak discussed additional research needs, particularly smolt research such as Leisure. Limnology generally funds Chenik smolt, but no smolt will emigrate in 1995. Hammarstrom questioned the extent CIAA should be required to evaluate enhancement projects (e.g., PAR and user-pay issues), particularly if mixed-stock returns are not an issue due to terminal harvests and any financial loss resulting from poor survival would be minor. The need to increase smolt evaluation was generally agreed upon. There was also agreement on the need to develop a comprehensive package of budget priorities and research needs; Brady suggested the new researcher could develop a list of yellow-book proposals and research needs, such as AWL sampling, McNeil, smolt production, and thermal marking evaluation.

McNeil River Projects

Bear-Salmon Interactions. The determination of "risk" level for escapement goals in Yuen's "Monte Carlo Simulation to Evaluate Escapement Goals for the McNeil River Chum Salmon Run" was discussed. Of concern was how a low salmon escapement would affect management action because of perceived risk to bears. Brannian stated some data points showing a small escapement increase yielded a substantial increase in bear use-days; also, it would be difficult to increase spawning biomass over time with the estimated 1.2 return:spawner. Bucher emphasized issues of interception, previous management estimates, and predation by bears after fish counts.

Aumiller and Westlund reported that University of Alaska graduate student Polly Hessing

would like to evaluate the McNeil chum-bear relationship. Fish catch rates are available for four years at Mikfik and nine years at McNeil. Hessing's research, potentially involving two field seasons, will develop a more precise relationship between fish escapement and predation level with respect to fish sex, run size, etc. Hessing has potential funding and would continue to radio-tag and examine stream-life. Regarding which fish issues the study might address, Bucher identified a need to better describe the return/spawner. Group suggestions also included bringing Hessing to Homer for project clarification, putting a fish professor on the graduate committee, and making Hessing's draft project plan available for review so CFM&D concerns could be more fully incorporated. Aumiller will transfer a box of LoTech fish transmitters to Fried, and would also like to use visual tags. Tagging will involve beach seining at high tides with 3-4 McNeil staff members; Bucher will research a "loaner" beach seine. Bucher suggested T. McNeill may be available to help tagging. Queried on CMF&D field assistance to collect AWL data in the absence of a commercial fishery, Westlund felt housing and space would not be a problem if the technicians avoid the falls. A new McNeil building is planned for 1995. With McNeil opening around mid-May, the Hessing meeting needs to occur within 1-10 May. The McNeil Planning Team will meet this week to review the Strategic and Operational/Management Plan drafts; Brady, the CFM&D representative, is unable to attend. McNeil will have three work crews: 1) work - trails, roof, etc.; 2) cabin - to build new cabin; and 3) research - to count fish, etc. The Bayrunner skiff transfer during the April herring fishery by either the PANDALUS or commercial vessel was discussed.

Mikfik Beaver Dams. Bucher described the rapid beaver dam expansion last fall and the problem components of 1) the beavers, and 2) the dams. Although Aumiller suggested two trips with the McNeil crew may be feasible this year for dam removal by hand, it was generally agreed that explosives may be the best removal option. For the beavers, shooting may not be an efficient use of time and Westlund suggested trapping with drown sets or using nets, but given a need for daily gear checks, explosives may best revolve both issues. It may also be feasible for a McNeil staffer to trap the beavers, with CFM&D subsequently removing dams. Mikfik salmon will open 1 June on two 48-hr periods but won't stay open long.

Five-Year Plan

Was last produced by Yuen in August 1994; there was uncertainty whether the researcher should work on PAP research issues? CIAA has provided some funds under a user-pays concept.

Sampling Activities for the 1995 Field Season

Pink Weight and Sex Ratio. Due to questionable 1994 fish ticket data, catch sampling for mean pink weights was discussed. Brady suggested collecting daily sex-ratio data, or having

CIAA hatchery staff collect sex-ratio and average size data due to the importance for future common property management. The scrutiny of commercial reporting to ensure accuracy, and whether a full sampling program should be developed to override fish ticket reporting of fish size, was discussed. Brannian will determine the minimum sampling frequency to define sex ratio trends, and will review LCI catch sampling strategies and develop a blue book package.

Resurrection Bay Sockeye. PWS CFM&D has a catch sampler in Seward, but the PWS sampler will not likely be available in June. The new researcher will need to coordinate sampling of June sockeye returns to Seward.

Delight/Desire Sockeye. In route to PWS, the R/V PANDALUS will stop at Nuka during July 17-19 to seine fish in creek; the new researcher needs to determine the priority of this sampling.

LOWER COOK INLET HERRING

Kamishak. The projected Kamishak herring harvest is 3,300 short tons. The allowable harvest will be reduced if preseason test fishing indicates a low return. Fishery logistics will be similar to past years with both skiffs on site, the survey plane fuel on the boat, and, hopefully, 1-2 enforcement officers for the fishery. Hilsinger and Brady plan to be on the grounds. Last year, the early season biomass congregation didn't appear and weather limited searching by the fleet. Hilsinger discussed requiring a "performance bond" to be held until the test fishing contract is fulfilled. The PANDALUS will go to Kamishak on 17 April and the first herring sample should be available a few days later. Fish samples will tentatively be flown out for processing in the Homer lab by McNeill, Sigurdsson, and a yet-to-be determined scale reader. Fried will look into Diane, Cordova's scale reader, and Brannian into Baker as options to work in the Homer office during herring season and provide age composition for inseason analysis. Brannian will help the new researcher with the herring forecasts.

Southern District. People continue to report spawning, but large spawning congregations are never observed. Juvenile herring were seen in each of the last two years.

Outer/Eastern District. No fishery or effort is expected in 1995.

Kodiak/Shelikof. The sac roe harvest has relied on a large biomass, but is becoming more intensively fished. The fall Kodiak harvest is set at 10% of the forecast from the spring Kamishak survey and not 10% of the next year's forecast. Kodiak staff feel they can identify 132 distinct stocks. The fishery opens 15 April and occurs at night as fish migrate shoreward while ripening to 7-8% roe content.

CENTRAL REGION GROUND FISH

Fishery Review and Outlook

Cook Inlet

Bechtol reported the 1994 Pacific cod harvest from both state and federal waters of Cook Inlet was 1.8 million lb, slightly less than the 2 million lb average for recent years. The Pacific cod "season" in Cook Inlet is managed to coincide with the cod season in the adjacent federal waters of the Central Gulf of Alaska. The federal season opens 1 January and closes when the total allowable catch (TAC) for Pacific cod has been taken. Federal quotas are based on area-swept estimates derived from the federal triennial survey for the Gulf of Alaska. With approximately 50% of the federal Central Gulf TAC taken for 1995, the 1995 Cook Inlet catch is 1.6 million lb to date and may exceed 3 million lb by the season closure. In recent years, more of the Cook Inlet cod catch has come from federal than from state Cook Inlet waters. In most years, an increase in the Pacific cod fishing effort during late February and March typically precedes an April closure. In contrast, the lack of a Cook Inlet Tanner fishery in January 1995 resulted in a relatively early increase in the cod catch.

Region wide 58% of the cod catch is from pot gear while the remainder is mainly taken by longline. Federal halibut-bycatch caps which result in longline and trawl closures have encouraged effort in the pot fishery. The soon-to-be-implemented halibut and black cod IFQ program will require the retention of Pacific cod and rockfish to the limit specified in other state or federal regulations. Many Cook Inlet fishermen have urged a different management strategy such as split seasons and quotas for Pacific cod. Bechtol has encouraged interested individuals to submit proposals for the upcoming Board cycle.

The cooperative sandfish study involving the industry, the University of Alaska, the Kenai Peninsula Borough Development District, the Akita prefecture in Japan, and ADF&G has been completed. The project used trawls, seines, gillnets, and jigs at several Cook Inlet locations throughout the year but caught < 10 sandfish.

There has been little interest in fishing for pollock in Kachemak Bay. Jig caught pollock in other areas have sold for as much as \$.40/lb in the past. Cook Inlet pollock have not been included in the 1995 global emergency order.

The Cook Inlet rockfish catch has increased in 1995 with nearly 2,000 lb, mostly pelagic species, caught to date; the 1994 catch was 445 pounds.

Prince William Sound

The 1995 Pacific cod catch to date is 0.5 million pounds, but fishing effort has been slow this year. Bechtol will tentatively manage this fishery for the five year average catch of 1.6 million lb, but may increase the harvest to complement a 49% quota increase in the adjacent federal waters. He hopes to talk to PWS advisory committees about split quotas and seasons and intends to develop the crab/groundfish trawl survey data into a minimum cod biomass estimate.

A CFEC report to consider limited entry for sablefish in PWS should be available soon; Bechtol feels that PWS sablefish is likely to be limited with effort initially capped at the highest participation during the last four years. Effort is typically 50 boats but has ranged to 72 boats. Limited entry as a management tool for this fishery would facilitate the implementation of other effort reducers such as trip limits. The PWS sablefish quota is based on a yield per habitat model originally developed for Chatham Strait, and modified by PWS CPUE estimates from previous years. An alternative would be to do an assessment. Fishing during each of the last two years totaled 96 hours. This year will likely involve one 48 hour fishing period.

The largest historical pollock catch in PWS was 7,300 lb in 1990. In February 1995, an estimated 5 million lb were harvested in two weeks. The closure of the 1995 fishery was based on a 15% exploitation rate applied to the 1989 multi-species trawl survey data. During the fishery there appeared to be three major pollock schools in west and southwest PWS; it could not be determined whether these PWS pollock were part of Gulf of Alaska stock. The PWS fishery will not reopen in 1995 regardless of the results of a hydroacoustic assessment involving ADF&G, the PWS Science Center, and private industry. Assessment data from the 1995 survey may be used to set quotas for a potential 1996 fishery. Bechtol felt pollock were present in past years but not pursued because of low prices. Other management measures, such as the season opening date, will be developed before next year.

Rougheye, shortraker and yelloweye compose most of the PWS rockfish catch. The fishery opened 1 January and will go to bycatch-only after a 150,000 lb harvest trigger is reached. This trigger has not been taken in the past two years, as only 97,000 lb were harvested in 1994. Most of rockfish catch occurs in western PWS.

The PWS lingcod catch was 5,200 pounds in 1994. The fishery is closed from January through June with no bycatch allowed, then opened 1 July with a minimum size of 35 inches.

North Gulf of Alaska

The harvest trigger for rockfish from the North Gulf is 150,000 lb. The trigger was reached

by 1 May in 1994 with bycatch only allowed for the remainder of the year. There are enforcement problems with trip limits and catch reporting, and also misreporting of state harvests as coming from federal waters. Approximately 70% of the commercial catch is black rockfish, 25% is dusky, and 5% miscellaneous rockfish. Rockfish classifications are: slope, demersal and pelagic. Sport fishery in Resurrection Bay is significant.

The average Pacific cod catch during the last four years was 2.5 million lb. The fishery, which normally starts slower than Cook Inlet, has yielded <0.5 million lb to date in 1995. The North Gulf cod fishery is managed by the global emergency order for consistent seasons with the adjacent federal waters.

The 1994 North Gulf lingcod catch of 22,000 lb was a slight increase over the 1993 harvest. The directed fishing CPUE is typically approximately 3-4,000 lb per delivery. The 1994 lingcod catch in the adjacent federal waters was 50-60,000 lb. Resurrection Bay will close by emergency order prior to the 1 July regulatory opener for North Gulf. The state has management authority for lingcod in the federal waters because lingcod is not included in a federal management plan (FMP). All other major groundfish species are in an FMP.

The average sablefish catch over the last few years has been 142,000 lb, with Nuka and Aialik producing most of the catch. The Federal IFQ fishery will open 15 March. Pending internal review, the North Gulf may be opened for sablefish by emergency order. A vessel operator cannot have IFQ and non-IFQ fish aboard simultaneously.

Reports

Bechtol provided the following status on groundfish reports in preparation or under review:

- 1) 1995 Annual Management Report - near completion and should be out soon.
- 2) Kachemak Bay flatfish - Developed from a 1989 Kachemak Bay multi-species trawl survey data, is under review for a Sea Grant publication.
- 3) Cook Inlet Pacific cod - Needs some additional editing and updating; once completed, will be important for management authority in Cook Inlet.

Length, sex, maturity, and average weight data are currently available for ADF&G trawl surveys and groundfish port sampling, mainly focusing on rockfish, Pacific cod, sablefish, and pollock. Since no dedicated funding has been identified for region 2 groundfish otolith ageing, otoliths are read on a time-available basis by the age lab in Juneau. There is currently a three year lag time in reading the region's groundfish otoliths. As ageing proceeds, several comprehensive stock composition reports are anticipated. Report directions anticipated in the future include:

- 1) Rockfish summary - Potentially to be written with Scott Meyer for the next Cook Inlet Board meeting, will include landings by species, time and area.
- 2) Stock composition - Species summaries based on trawl assessment data for PWS and Cook Inlet and primarily involving rockfish and Pacific cod and potentially yielding minimum biomass estimates.
- 3) Commercial rockfish summary - Composition of rockfish caught as halibut bycatch and also in directed jig fisheries.

Assessments

Cook Inlet stock assessment may increase in 1995, with most potential new assessments primarily funded by grants. The Coastal Marine Institute, using pass-through funds from the Minerals Management Service, will potentially fund a flatfish survey in cooperation with the University of Alaska. Kachemak Bay will be surveyed in May and September 1995 and February 1996 for seasonal flatfish abundance and species composition. The CMI will fund at-sea costs plus \$6,500 for a net (400 mesh eastern). Another project likely to be funded by CMI is an August 1995, Central Cook Inlet Pacific cod trawl survey in conjunction with the Institute of Marine Science. ADF&G will be responsible for the biomass data, and IMS will conduct a cod bioenergetics analysis. These data may be used to gain NPFMC approval to manage federal waters in Cook Inlet. This proposal also requests at-sea costs and \$6,500 for a net. Bechtol would like to resurvey the Central Inlet every 2-3 years for comparison with existing Kamishak and Kachemak Bay surveys.

Bechtol will continue to collect groundfish data during the Cook Inlet and PWS trawl surveys. Relative to previous years, otolith collection rates will be reduced somewhat but collection of length, gross weight, and sexual maturity data will continue.

An experimental fishery to compare jig and longline gear targeting Pacific cod and pollock in PWS failed to proceed beyond an initial fishing trip because the permit holder found the survey was not economically viable. Hilsinger suggested that future experimental fisheries might include a performance bond so the necessary survey is guaranteed. The only way the state is going to have the resources to more actively manage state resources, particularly given declining revenues, will be a user-pays concept based increasingly on test-fish funds. Hilsinger provided the regional policy on funding new programs as, "We gotta pay for this program somehow, and we don't do bake sales."

Board of Fisheries Proposals

The March 1995 meeting will include a staff proposal to implement bycatch only and trip limits by emergency order in order to provide an inseason balance between directed fishery and unavoidable bycatch. Unless authorized by the Board, current authority is limited to open or close the directed groundfish fishing. In response to whether current harvest levels are set with bycatch in mind, Bechtol relayed that no retention of PWS sablefish is allowed outside of the directed fishery. In contrast, the rockfish harvest triggers were based on the total historical catches. Rockfish currently has a regulatory bycatch provision with the bycatch cap set at 20% of the total catch. The federal strategy involves setting the directed fishing quota at 90-95% of the total quota. If the Board proposal for a bycatch EO is adopted, the inseason EO will be used as a temporary measure to allow develop of longterm bycatch limits for specific species and fisheries. There was substantial group debate on this subject based on potential abuse if bycatch restrictions are too nebulous.

Bechtol reported on a proposal submitted by Ken Adams which emphasizes greater state management; because the proposal is highly allocative, staff will remain neutral.

Several proposals are anticipated for the 1995/96 Board cycle addressing Cook Inlet and the North Gulf. One staff proposal would establish in regulation the pot closure/crab sanctuary that has been established by EO for the past five years. In response to an industry request to research Pacific cod catches with minimal crab bycatch, the Bluff portion of Kachemak Bay was opened by EO this year; fishermen have yet not provided any catch data. Another staff proposal intended to protect crab resources would prohibit non-pelagic trawling north of Anchor Point. This closure has been implemented by EO for the past few years. A public proposal would divide the 150,000 lb rockfish quota for the North Gulf between pelagic and demersal.

COOK INLET SHELLFISH

Fishery Review and Outlook

Kimker retires August 30, 1996.

Tanner Crab. Kimker reported there was no 1995 fishery because the 1994 survey estimated a near-term, historic low population. However, Kamishak pre-recruits have increased recently and a positive 1995 survey may yield a 1996 fishery. Anecdotal data, such as pot cod and scallop bycatch, also suggests the Kamishak stock may be increasing, although Kodiak's surveys south of Cape Douglas have not found a major increase. If initial

tows in the 1995 Kamishak survey indicate a harvestable surplus exists, sample stations will be increased in areas of major crab abundance to improve precision. Kimker cautioned that up to 50% of the pre-recruit I size-class skip molt in the Kamishak and Barren Islands areas, reducing potential legal recruits. Skip molting may establish the terminal size. Based on allometric size, male Tanner in Alaska appear to have one post-maturity molt. In contrast, the Canadians feel the molt-at-maturity is the terminal molt. Any Kamishak/Barren Islands fishery in 1996 will lack a pot limit. A pot limit (70-75 pots) with buoy tag requirements will be proposed in the 1995-96 Board cycle. This pot limit will slow the fishery to improve CPUE monitoring and allow a determination of the appropriateness of the guideline harvest level. If a 1996 fishery occurs, Kimker would like to pursue a pot limit by Emergency Regulation (ER), which may involve the Board requesting the commissioner adopt an ER. If Kamishak opens in 1996, the Outer/Eastern Districts will open concurrently, but remain open for 30 days with stock assessment through port sampling. Due to a limited resource abundance and patchy distribution, the Outer/Eastern areas are not intensively fished. The pot cod fishery has found some pre-recruit crab in Outer/Eastern areas.

Dungeness. Kimker reported most Cook Inlet adult Dungeness are found in Kachemak Bay and juveniles are found in both Upper Cook Inlet and Kachemak Bay. Upper Inlet juveniles may migrate to the Bluff as they grow. There is little data on female Dungeness movement. Dungeness continue to be depressed with no commercial fishery since 1991. Although pre-recruit indices in the 1994 pot survey do not indicate a harvestable surplus for 1995, shed exoskeleton finds indicate a pre-recruit class may potentially recruit in 1996. Little data exists on local growth rates, although rates appear to be slower than southern populations, perhaps a year later than Washington. When Dungeness stocks recover, limited entry will exist with pot limits, depth restrictions, and a restrictive management plan to be reviewed by public.

The recreational fishery has exhibited high discard mortality, poor harvest documentation, and a high incidence of regulation violation with poor enforcement. Because the population is depressed, the high incidence of recreation fishery violations significantly impacts the population. Kimker would like to use the Statewide Dungeness Crab Management Policy, currently being developed, to guide Cook Inlet management. In the interim, a Cook Inlet Management Plan, with "guideline trigger" points based on thresholds, may be developed prior to a potential 1995 recreational season. Dungeness will continue to be indexed with a pot survey and a multi-species trawl survey. An "enforcement blitz" was suggested for late-July-early-August; Meyer suggested including a media blitz.

King Crab. Kimker explained that mostly red kings, with a few browns, occur in the southern range of the management area, with most adults in non-trawlable habitat. The population is so depressed that significant rebuilding isn't likely in the near future based on the lack of anecdotal indicators on potential recruitment, such as exoskeletons or juvenile ball observations. Larval sources and potential recruitment given environmental variability and

certification of additional beaches in late 1994, ultimately yielding a 44,000 lb harvest. The fishery subsequently closed on biological justification and also due to political concerns of the non-digging public over a rapid fishery expansion. Using a minimum size and a guideline harvest of 65,000 lb based on historical harvests, a January 1995 opening was planned. Political pressure following Bear Cove certification resulted in only half of the commercial Bear Cove area being fished. Following a 27,000 lb harvest in January, Bear Cove was closed to spread effort over remaining areas. Commercial fishing is now closed by EO on weekends and during the first 15 days of each month. Because greater competition has increased potential dead loss problems due to digging in cold air, ADF&G may implement cold weather restrictions by monitoring air temperature prior to each winter tide series, or closing digging during the coldest winter months. Gustafson described the clam survey methods. Chugachik stocks, which will be surveyed in April 1995, exhibit a healthy age distribution of 3-14 years.

Southern District Shrimp. Gustafson reported the 1993 survey indicated the lowest shrimp abundance on record. Another survey will occur in June 1995; the University of Alaska has expressed interest in a length-at-age analysis of these shrimp.

Outer/Eastern District Sidesripe. The commercial fishery involved two boats annually during 1991-1994 targeting a size-specific market. Vessels used sorting tables in 1994 so the harvest only reflected large-sized shrimp. Resurrection and Harris Bays were surveyed in 1994. The 1995 fishery may only attract late season effort.

Board of Fisheries Proposals

Kimker pointed out the next Advisory meeting is 14 March. The items listed below will potentially be discussed at that meeting as well as submitted to the next potential Board cycle; Board meetings are Spring 1996 for king and Tanner crab and Dungeness in 1997.

1. Extend the 70-75 Tanner crab pot limits currently in effect for Kachemak Bay to the remainder of Cook Inlet Management Area, including Outer, Eastern, and Kamishak/Barren Islands.
2. Increase the number of escape rings from 2-4 to decrease ring saturation and increase the escape of under-sized crabs.
3. Recreational crab proposals:
 - a. Require Cook Inlet/Resurrection Bay Saltwater Area recreational users to bring crab to the dock intact, unless consumed aboard the vessel; Meyer will review this proposal.

predator populations were discussed. Some illegal PU harvest likely still occurs.

Sea Cucumbers. Kimker reported cucumbers were first harvested in the 1993-94 season, with 32,000 lb taken primarily in Sadie Cove. Opened by permit in 1994-95 when ~20 divers, managed by logbooks, harvested 25,000 lb from Tutka and Sadie. Other areas remained open but no significant populations were found. Shifting to an alternate year harvest cycle, Tutka and Sadie will next open in 1996-97.

Urchins. Kimker explained both red and green urchins are present, but divers are only permitted for greens with a 2" size limit (inside spines). The fishery has been sporadic and primarily occurs when roe content is highest. Most harvests are from China Poot Bay, which opens on an alternate year cycle. The 1993-94 China Poot fishery yielded 195,000 lb (\$1.50/lb) before closing in late January based on the pre-spawn condition (milt observed from males). In 1994, <50 lb were harvested. Next year, the season will open in August with market and gonad conditions determining effort; weekly closures may be used to slow the fishery and allow better logbook data examination.

Scallops. Gustafson described the Kamishak scallop fishery, which began with 2,300 lb in 1983. Current regulations include restrictions to a single 6' dredge w/4" rings, mandatory logbooks, a GHL of 0-24,000 lb of meat, and a season opening and closure by EO. The highest historical catch rates occurred in 1994 with the primarily fishery east of Augustine. Bycatch limits are set at 1/2% of the estimated king crab population, or a 60 crab limit in 1994, or 1/2% of the Tanner crab population. Onboard observation by Gustafson during the 1993 and 1994 fisheries allowed comparison between observed bycatch and logbook data. A late season increase in crab bycatch was attributed to on-grounds discards of scallop viscera after shucking. Scallop ages ranged from 3 to 18 years. The 1995 fishery will involve a GHL (~20,000 lb) based on 10% of the 1984 survey biomass, open access likely to attract five boats, and similar assessment with Gustafson as an observer; federal closures may delay the fishery 1-2 weeks. The remainder of Cook Inlet is closed, and the Outer/Eastern Districts are permit fisheries; the two permits issued in recent years harvested 11 (yes, individual!) scallops. A federal moratorium will be implemented in 1996.

Aquatic farms. Aquatic farm permitting may become an issue. Because the current process lacks control, a system providing better scrutiny by managers, geneticists, and the public is needed.

Clams. Kimker described the Clam Management Plan presented at the 1994 Board meeting. Although DEC was to approve digging areas, DEC certification did not match demand and harvesters were left with existing certified beaches; political pressure resulted in DEC

- b. Kimker hoped to require escape rings on crab pots, particularly for Dungeness, but would like to see statewide requirements. Given the current lack of interest for Tanner rings statewide, he will wait for the statewide Dungeness proposal cycle in two years.
- c. A public proposal would restrict recreational crab fishing to ring-nets only.

Reports

Completed Cook Inlet reports include: Dungeness pot survey; Dungeness management; Tanner survival in closed pots; and Dungeness growth. Reports in progress and projected completion dates are: AMR by May 31; Clam Survey by May 31; Tanner tagging by 1996. PWS reports in progress and projected completion dates include: Scallop Operational Plan due ASAP; 1993-94 Tanner by March 31; 1991 PWS pot survey; Scallop impacts of MR. BIG (concerns were raised about confidentiality); Clam Oil Spill Paper - passed to Baker; Kimker's Spot shrimp Growth & Movement by 1996.

PRINCE WILLIAM SOUND SHELLFISH

Fisheries and Outlook

Trawl Shrimp. Trowbridge reported the 1994 harvest totaled 111,000 lb and averaged \$2.15/lb (whole weight). Managing through observer data beginning in Mid-May, the Port Wells harvest totaled 45,500 lb. Prior to an 8 July closure of all inside waters, 32,500 lb were harvested from Perry Pass and 29,000 lb from Central. A 1 October reopening to assess claims of shrimp distribution changes in the Central/Southwest areas yielded a 10,000 lb catch, primarily from Central, before the closure. PWS shrimp are fully exploited. The 1995 season dates of 15 April to 15 July and 1 October to 31 December were announced in a March News Release and are contingent upon the GHL. The 1995 fishery will start with a 33,500 lb GHL for Port Wells, coupled with late-April observer coverage to monitor CPUE to detect low abundance and potentially direct an earlier closure; the fishery will be managed for 20% of the Port Wells and Wells Passage biomass as estimated from area-swept data collected by an onboard observer. Perry Pass management for 33-35,000 lb will also rely on comparisons of inseason to historical logbook data; Central management will start with a 29,000 lb GHL, coupled with observer coverage.

Spot Shrimp. Trowbridge relayed this fishery has been closed since 1991 based on 1989-1994 October survey data from eight index sites. The record low index observed in 1993 was maintained in 1994. Some recovery, particularly juveniles, has been observed in

Southwest. The fishery harvests age 7-10 shrimp. The wire mesh escape panel, based on market demands and designed to release males which are generally less than 34 mm carapace length, still retains large males. It is uncertain how well the survey detects pre-recruit individuals, and whether we should go to alternate year surveys (consider adding to list of research meeting items). Trowbridge will work with Sport Fish to implement the minimum mesh size regulations for sport fish/PU pots effective January 1996.

Scallops. Trowbridge reported no fishery occurred in 1994 due to Board action. The 1995 Kayak Island harvest totaled 48,820 lb (50,000 lb GHL) with vessels averaging ~3,000 lb of meats/day at \$4.75/lb exvessel value and 25-30 meats/lb. The fishery will remain closed in 1996. A limited fishery may occur in 1997, pending a determination of the F/V MR BIG harvest, which will be deducted from future quotas. Due to a lack of interest, permit issuance for the western Experimental Area is not anticipated in 1996.

Trowbridge described a study design of the Kayak Island scallop bed using 53 grids, 1 nm² each, to encompass the 1993 commercial fishery location, and also focus on the edges of survey area to confirm the extent of the scallop bed. A weather-dependent, systematic design will tow alternate grids over six days from 30 July - 4 August, with more sample stations at the highest scallop densities. Scallops are currently subsampled and released, but an alternate year, cost-recovery survey yielding 1,000 lb scallops in five days may be possible in the future. A comparison between population estimates from the 1995 fishery and the August ADF&G survey was suggested. Brannian encouraged Trowbridge to send Baker the survey design for review.

Dungeness Crab. Trowbridge described the Copper River Dungeness closure since 1993. The 1994 survey found a recruit CPUE consistent with historical data; there has historically been good agreement between the commercial fishery CPUE and survey CPUE. The Dungeness Management Plan triggers a fishery opening for an index of eight crabs/pot, assumes a yield of 420,000 lb, and after subtracting 20% for a conservative approach, yields a 380,000 lb GHL, or 40% harvest rate. Working with Joe Dinnocenzo (NMFS) on Marine Mammal logbook data, Trowbridge found inconsistent observer documentation so data will be primarily qualitative. Brannian suggested trying to dovetail crab bycatch data and for development of a chinook proposal. Most crab reported from Controller Bay (inside bars) and Grass Island (outside bars) are small; Kimker recalled catching juveniles inside and adults outside the bars. Trowbridge intends to survey in July prior to the regulatory fishery opening and again in August, but doesn't anticipate a CPUE high enough for a fishery. The August survey generally provides a higher index than July, but with greater interannual variability. A redesign of the management plan is anticipated prior to the next Dungeness Board meeting. Because of July softshells, Trowbridge would like to shift to an August fishery. Price reductions often occur in years of high softshell incidence. Although now a split season; a shift to a single season opening in March was also questioned because storms can promote gear loss in late fall. However, given biological data, it was also questioned if the population might benefit from no spring season to disrupt mating. Discussed presentation of the Dungeness Management Plan to the public.

Tanner Crab. Trowbridge reported stocks remain depressed; Orca and Northern Montague have been surveyed since 1991 with Hinchinbrook added in 1994. In the latter years of the fishery, the fleet worked toward the 200 fathom depth and virtually all crab in that depth were "very old." In 1995, we will again survey Orca and North Montague, but with fewer stations due to the time needed for the Kayak scallop survey. The history of supplemental surveys includes: 1991 - Outer Montague, 1992 Kayak, 1993 - Port Bainbridge, 1994 - Hinchinbrook. No commercial fishery is anticipated for at least three years and Trowbridge may consider annual surveys which focus on crab and on groundfish on alternate years.

Brown King Crab. Trowbridge described the 1994 fishery that was primarily informational and opened late with only two vessels registered. In the Southern area, one vessel without a delivery produced NO legal crab, but did catch some non-legals; one boat fishing the Northern area produced few legal crab for 200+ pot lifts. Weather was a problem during the fishery. A similar informational fishery may be used in another three years. Some anecdotal information is occasionally available from PU pots set out by deer hunters.

Urchins, Cucumbers, and Clams. Trowbridge reported exploratory permits have yielded no catches despite reports of small urchins in western PWS. Some data suggests a predominance of small urchins may result from selective otter predation. SE AK is actively monitoring urchin abundance in areas that otters have returned to. Also, the 1964 substantially earthquake reduced urchin habitat. A Draft Management plan is being developed for urchins and cucumbers, despite little interest in clams and apparent continued declines in clams. Some small clams are found in the PU fishery at Little Softuk.

Board Proposals

Trowbridge will submit a proposal for a 75 pot limit with buoy tag requirements for the 1996 Tanner crab Board meeting. The proposal may include a sliding limit tied to the guideline harvest level. Another proposal will require at least four escape rings.

OTHER ISSUES

Stream Structure and Logging Impacts

K. Koski presented a slide show on stream structure and the impacts of logging on fish habitat. Alaska has 90% of the nation's salmon production, but a very low percentage of the timber production. Stream habitat may be classified as first order (headwaters) to 5th, 6th, etc., order. Approximately 75% of stream habitats are 1st-3rd order. Stream classifications may also be based on geomorphology or some ecological measure, such as the presence of

anadromous fish species. Any factor which can significantly alter species production in a system can be limiting. All systems have riparian corridors with riparian vegetation exerting a primary control over the biota. In southeast Alaska, the riparian corridor is primarily coniferous forest with a heavy canopy. Riparian influences change with distance from the stream, and the influence on salmon production is considered one tree height.

Koski defined large woody debris (LWD) as being > 10 cm diameter and > 3 m long. LWD primarily results from stream bank erosion (60-70%), blowdown (20%), and tree disease. Most LWD occurs in 1st order streams because the greater water flow in higher orders moves LWD downstream. LWD facilitates channel and pool (stair-step) formation and provides winter cover. The canopy stabilizes stream temperatures. Fine woody debris provides the major energy source for Alaska streams, driving invertebrate and higher trophic level production. In contrast, streams outside Alaska are often driven by solar energy. In old growth forests, input and output of LWD are equal and constant. LWD in some streams has a 55 year average age and > 200 year maximum age with a depletion rate of 1-3%/year. Since LWD development after logging takes about 100 years, a 30 m buffer stabilizes long-term LWD production.

With respect to fish, stream habitats are defined as migration, reproductive, or rearing. Spawning habit depends upon gravel, flow, and stream-bed stability. Given stream residence, juvenile fish are often used as an index of habitat capability. Pools with cobble and LWD is the preferred winter habitat. Logging removes the canopy/cover and the stream energy source. In 1988 NMFS established a 30 m no-cut buffer, adopted for the Tongass Timber Reform Act, with slightly larger buffers applied now. The Alaska Forest Practices Act specifies 30 m buffers on public land and 20 m buffers on private lands, with a private land option for a variance or even no buffers on small streams; many small spring-fed streams provide winter fish habitat.

Steve Albert provided a handout describing existing and also proposed timber contracts on the Kenai Peninsula, including Port Graham, Fox River/Sheep River, Caribou Hills, and English Bay. Because the cumulative effects of logging will likely result in decreased fish production, we need methods to document cumulative impacts of logging, methods to evaluate Habitat recommendations, and assistance in documenting blowdown areas. Regarding the potential for a cooperative pre-emergent fry project on Windy Creek, Albert expressed concerns about a lack of staff. Albert stressed the need to involve PCS in a video on logging impacts and identifying trees as non-renewable resources at the current non-sustainable harvest rates.

Koski explained that loss of LWD from pink and chum spawning habitat reduces stream stability and increases sedimentation. Current research suggests that any logging within the 30 m buffer will have a detrimental impact upon stream productivity. The Habitat Division only "recommends" while cut/no-cut decisions are made through DNR recommendations to Forestry. Albert suggested every tree performing a fish habitat function in the stream needs to be protected, with buffers based on tree heights which allow trees to fall into the stream.

Enforcement Issues

Kain urged anybody with problems to contact him personally. F&WP desires to be "proactive", not "reactive", focusing on resource problems, such as wild-stock fisheries instead of hatchery fisheries. Kain discussed F&WP staffing: Homer-Thorsrud and Kruzik with the BALENA and WHALER; Soldotna - Youngren, Cockrell, Daikima (pilot), Rankin (retires this summer), Whitehead, and Swanson; Cordova - Hamm, Edmundson, and hope to hire a supervisor/pilot; and Seward - Anderson. Due to liability, F&WP must promote officers to troopers, or reduce authority and make non-uniformed. F&WP will potentially lose 1/4 of F&WP staff this summer and will lose seasonal FW&P enforcement "officers" due to reclassification as Aides that will not make contacts. There are presently 86 enforcement officers statewide and the current academy will yield two new officers, likely posted in Anchorage and Soldotna.

Specific Problems

Bucher reviewed the Kamishak herring strategy (fishery duration is typically 20 minutes) with subsequent discussion of F&WP vessel utilization; Kain will send Thorsrud on PANDALUS with Kruzik arriving for the actual fishery. The BALENA can be sent to provide greater flexibility and presence. Bucher described the video-taped Tonsina Creek salmon violation; Kain will pursue the issue. Bucher also discussed seine problems in McCarty Fjord (Delight and Desire) and Port Dick (late season), where the most effective patrol is by airplane, and setnet problems in Kachemak Bay. Hammarstrom described the PU set gillnet fishery opening 16 August and last year's enforcement effort which found a 100% violation rate on the Homer Spit. Dudiak requested F&WP's presence for the 1st day of snag fishery openings.

Bechtol discussed PWS sablefish in May, rockfish trip limits, and the potential for a bailable offense for seven day reporting violations; Brady will forward the bailable offense memo to Kain. Kain described the process to make an offense bailable.

Trowbridge described poor reporting, especially by catcher-sellers, in the PWS trawl shrimp fishery opening 15 April; and reports of urchin fishing. Kimker discussed recreational/PU crab fishery problems in Kachemak Bay, which opens 15 July for Tanner and Dungeness with high effort through September. Kain discussed well-publicized "enforcement days" and agreed to a 3-day enforcement project in late July or early August. Kain also suggested tagging and storing illegal gear, and making a public announcement that gear is confiscated. Individuals claiming gear would be cited; after six months the court could be petitioned for approval to dispose of unclaimed gear. Kain also mentioned a PR day involving local skiffs dragging for lost gear with grappling hooks. Kimker described the enforcement loophole for crabs processed at sea making sex determination difficult on shore; Kimker felt there was too large a margin of error in meris length.

F/V MR. BIG

Lance Nelson and Andy Blank showed a video of the F/V MR. BIG boarding eight miles off Kayak Island and 3 1/2 hrs after the 23 February 1995 scallop closure. Staff from the WALSTAD interviewed 14 crewmembers; one crewmember estimated half of the scallop catch was discarded because the skipper deemed old scallops to have soft, unmarketable meats. Trowbridge felt only crushed scallops produce significant market problems. The MR. BIG skipper was issued several citations including failing to register, using an unregistered vessel in the fishery, fishing in closed waters, and using an unlicensed crew. However the Magnuson Act provides a loophole that a vessel not registered with the state is not bound by state fishing regulations outside the state boundaries. Nelson suggested the Magnuson Act needs to exempt Alaska from the registration loophole. The MR. BIG incident generated a 180 day closure for all scallop fishing in federal waters. The scheduled scallop openings for Augustine and Kodiak later in the summer will be delayed by the federal closure. The 50,000 lb harvest guideline for Kayak is based on commercial area swept and inseason CPUE data and applies a 10% harvest rate similar to Augustine scallops and other non-migratory species. ADF&G will also survey the Kayak Island scallop bed in August. A need was identified for documentation on the: 1) harvest of meats, 2) discarded meats, and 3) potential impact on long-term yield.

Administrative Issues

Chenik Camp Land Status. Dudiak reported ADF&G has received a 10-yr lease agreement from BLM, beginning in 1995, with the assumption that a land transfer to DNR would also result in a cabin lease transfer. If the current lawsuit results in a land transfer to SNA, the lease will no longer be valid.

Homer Office Networks. Hammarstrom reported Homer has EXCEL on the network, but budgeting for future software purchases is uncertain. Region would like application consistency by fall with exceptions for major database applications (e.g., Lotus); group consensus was reached that after the fall 1995 Board meeting all staff will switch to WORD, which will be on the network; Brannian will arrange office training with M. Beverage. The purchase of Microsoft OFFICE, or Microsoft Professional, which also includes ACCESS for database management, and Power Point presentation graphics was discussed. Also mentioned was license purchasing independent of softwares and competitive upgrades. For upgrading/replacing of Gustafson's computer, contact Jamsen but also budget for a 486 next year.

Hammarstrom described the benefits of a wide-area network and Internet access, such as E-mail capabilities with other state departments, and the disadvantages of costs: ~\$2,800 for a "router computer", ~\$2,000 to access a hub, and ~\$2,700 miscellaneous costs for worst

case total of ~\$7,700, plus dedicated phone lines at \$150/month and an Administration access fee of \$4,400/yr, or a monthly budget of ~\$4-500/month. Bechtol will contact Rigby regarding potential groundfish contributions.

Cordova Office Costs. Trowbridge described increases in electric and phone costs. Additionally, some costs previously paid by Sharr's research budget will potentially be picked up by Willette's budgets. Due to problems in tracking phone calls, the use of calling cards was suggested. Trowbridge received approval to research an additional office vehicle, particularly for the winter.

Groundfish/Shellfish Reorganization. Brady will initiate a research projects list to have by the May meeting. Subfilling the research position was suggested so that work could be done until the position is filled. Bechtol will prepare a task timeline for groundfish duties.

Board proposals are due in HQ on 24 March; would like to have in Anchorage by 20 March.

Table 1. Participants in attendance at the Lower Cook Inlet finfish and Cook Inlet/Prince William Sound groundfish and shellfish staff meeting during 27 February to 3 March 1995 at the ADF&G Regional office, Anchorage, Alaska.

Headquarters Staff

Frank Rue - Department Commissioner

Regional Office Staff

John Hilsinger - Regional Supervisor

Linda Brannian - Regional Biometrician

James Brady - Regional Management Biologist

Steve Fried - Regional Research Biologist

Ellen Simpson - Regional Research and Development Biologist

Tim Baker - Biometrics

Steve Albert - ADF&G Habitat Division

Larry Aumiller - Wildlife Conservation

John Westlund - Wildlife Conservation

Scott Meyer - Sport Fish

Doug Vincent-Lang - Sport Fish

Homer Staff

Nick Dudiak - Lower Cook Inlet Enhancement Biologist

Wes Bucher - Lower Cook Inlet Management Biologist

Lee Hammarstrom - Assistant Lower Cook Inlet Management Biologist

Bill Bechtol - Regional Groundfish Biologist

Al Kimker - Regional Shellfish Biologist

Richard Gustafson - Shellfish Biologist

Cordova Staff

Charlie Trowbridge - Prince William Sound Shellfish Biologist

Fish and Wildlife Protection

Al Kain - B Detachment Commander

Andy Blank - Investigator

Others

K. Koski - US Forest Service

Lance Nelson - Department of Law (??)

Table 2. Partial list of Action Items emerging from the Region 2 staff meeting during 27 February to 3 March 1995.

-
1. Refine the regional vessel policy on the PU of fish taken on vessels.
 2. Pursuit of the 1994 Tonsina Creek seining-in-creek violations.
 3. Pursue a long-term, ongoing solution to the Mikfik Beaver dam problem.
 4. Simpson memo on the RRDB meeting.
 5. Windy Bay pre-emergent fry surveys.
 6. Bear Lake AMP to include BEG.
 7. Based on general agreement of the need to develop a comprehensive package of budget priorities and research needs, a meeting on research needs will be convened in Homer after herring (mid-May?).
 8. New Researcher will compile a list of LCI research needs.
 9. New Researcher and Bucher will work with Polly Hessing on McNeil chum-bear interactions; try to involve Hessing in Homer research meeting.
 10. Research the transfer of the bear camp skiff to McNeil during herring.
 11. Contact CIAA about obtaining the sex-ratio and average weight of pinks.
 12. Brannian and Fried will work with the new researcher for a blue book package for fall submission.
 13. Research examples of a performance bond.
 14. Fried will research use of herring scale reader in Homer.
 15. Bechtol will distribute IFQ quick reference guide with news release.
 16. The PWS pollock survey data will be pursued to set the 1996 pollock fishery quota.
 17. Trowbridge will draft and coordinate an ADF&G statement on the quota development, including observer information from the commercial fishery, and potential long-term impact of MR. BIG on the scallop resource. Logs show 2-3,000 lb of meats per day, or 130-140,000 total lb during fishing effort, including discards.
 18. Trowbridge will draft operational plan for scallop survey.
 19. Hilsinger and Brady will review the Cook Inlet Dungeness Management Plan prior to distribution by Kimker.
 20. Meyer will review the crab butchering proposal with other Sport Fish staff and provide recommendations by 9 March.
 21. Trowbridge will work with Sport Fish to issue a News Release on the January 1996 implementation of sport/PU mesh size restrictions for shrimp pots.
 22. Trowbridge will work with Dungeness user groups to modify Management Plan during the two years before the next Dungeness Board meeting.
 23. Trowbridge will contact P. Desjardin on the possibility of carrying both the scallop dredge and trawl gear.
 24. Trowbridge will research a vehicle for Cordova-CFM&D; Brady will research the administrative aspect.
 25. Trowbridge will submit Board proposals for a pot limit and buoy tag program for Tanner crab.
-

Appendix A.1.

1995 LOWER COOK INLET STAFF MEETING AGENDA

Monday, February 27 9:30 a.m.

I. Salmon

A. Management

1. Pre-audits/review action items - Brady
2. 1995 Season Overview/Management Plans - Bucher
 - a. McNeil River Subdistrict
 - b. Resurrection Bay
 - c. Chenik Subdistrict
3. Hatcheries - Bucher/Dudiak
 - a. BMP's/AMP's/PAR's
 - b. PNP oversight - Brady/Simpson
 - c. Cost recovery
 - (1) Chenik/Kirschner Lake
 - (2) China Poot
 - (3) Hazel Lake
 - (4) Tutka Hatchery
 - (5) Port Graham Hatchery
 - d. Scurvy Creek PNP proposal status - Simpson
4. Field projects - Hammarstrom/Dudiak
 - a. Chenik Lake Evaluation
 - b. Chenik Weir project
 - c. Leisure Lake fertilization project
 - d. Limnology Evaluation
 - e. Marker maintenance
 - f. Mikfik beaver dam removal
 - g. Windy Bay pre-emergent fry sampling
 - h. Port Dick Spawning Channel
 - i. Sport Fish Enhancement status
 - j. Caribou Lake Enhancement
5. S. Dist. Subsistence gillnet fishery - Hammarstrom
6. Regulatory changes - Staff proposals ?
 - a. Subsistence gillnet operation - Hammarstrom
- b. China Poot Dip Net Extension - Dudiak

Appendix A.1 (continued).

B. Research

1. Pre-audits - Fried
2. Forecasts/Research Needs - Fried
 - a. Natural stocks
 - b. Enhanced stocks
 - c. PNP production
 - d. Five-year plan
3. Sampling activities for 1995 field season - Fried
 - a. Catch Sampling - mean weights
 - b. Resurrection Bay sockeye
 - c. McNeil River chums
 - d. Tutka Pinks (weight & sex)
 - e. Delight/Desire sockeye

Tuesday, February 28 8:30 a.m.

I. Herring

- A. 1995 Outlook/Management Strategy - Brady/Bucher
 1. Kamishak
 2. Southern
 3. Outer/Eastern
- B. Research/Sampling - Fried
- C. Personnel/logistics - Fried/Bucher/Brady
 1. Boat
 2. Homer
- D. Kodiak/Shelikof Herring Harvest Strategy - Hilsinger

III. All other topics not covered anywhere else

- A. Chenik camp land status - Dudiak
- B. Computer network software - Hammarstrom
- C. Wide Area Network - Hammarstrom
- D. E-Mail Distr. Lists (Herring & Salmon)
- E. First Aid Requirements

COMBINED STAFF AGENDA

IV. Administrative Issues

B. Division Merger/staff reorganization

1. LCI Research Biologist
2. Enhancement/Development/Sport Fish
3. Mariculture/Aquatic Farms
4. Biometrics
5. Clerical

C. Regional Administrative Issues - Brady

1. GGU vs. Supervisory Unit
2. Leave Usage/Overtime/Comp. Time
3. PDQs, Evaluations, etc. - Fisher (?)
4. Habitat/Logging Issues - Lance Trasky

1995 LCI SALMON HARVEST FORECAST

	<u>Enhanced</u>	<u>Natural</u> ^a	<u>Total</u>
CHINOOK	^b	NO FORECAST	^b
SOCKEYE	163,000 ^c	90,700	253,700
COHO	^b	NO FORECAST	^b
PINK	1,400,000 ^c	465,500	1,865,500
CHUM	0	75,400	75,400
Total	1,563,000 ^c	631,000	2,194,600

- ^a Forecasts of natural harvests are simply average commercial harvests of non-enhanced salmon returns from 1980 through 1994.
- ^b Enhanced returns of these species, intended to primarily benefit recreational fisheries, will probably contribute some amount of fish to commercial harvests.
- ^c Includes common property plus cost recovery harvests.

The preceding numbers include the following breakdown of natural and enhanced harvest components:

ENHANCED RUNS

<u>SOCKEYE SALMON</u>		<u>PINK SALMON</u>	
Chenik Lake	0 ^a	Tutka Lagoon Hatchery	1,400,000
Kirschner Lake	30,000	Halibut Cove Lagoon	0
Leisure Lake	65,000	Broodstock ^b	125,000
Hazel Lake	45,000		
Paint River Lakes	0 ^a	TOTAL	1,525,000
Bruin Lake	6,500		
Ursus Lake	6,500	<u>CHUM SALMON</u>	
Bear Lake	10,000	Tutka Lagoon Hatchery	0
TOTAL	163,000		

NATURAL RUNS

<u>SOCKEYE SALMON</u> ^b		<u>PINK SALMON</u>	
Southern District ^c	35,900	Southern District	78,300
Outer District	24,200	Outer District	218,000
Eastern District	11,100	Eastern District	20,500
Kamishak District	19,500	Kamishak District	148,700
TOTAL	90,700	TOTAL	465,500

- ^a Low level returns are not expected to produce any harvest.
- ^b Broodstock totals are not included in the harvest forecast.
- ^c Numbers for natural sockeye harvests are not forecasts but simply represent 1980-94 average catches.
- ^c Incidental harvest of fish not originating from the Southern District.

Appendix A.3.

Table 1. 1994 Enhancement releases of juvenile salmon, Lower Cook Inlet

PROJECT/SITE	SPECIES	HATCHERY	NUMBER	SIZE	TREATMENT	TRANSPORT
Tutka Bay a/	Pink	Tutka Lagoon	61.0 mil.	Fingerling	Short-term reared	boat
Halibut Cove	Pink	Tutka Lagoon	0			
English Bay Lake	Sockeye	Port Graham	~800,000		Direct released	floatplane
English Bay Lake	Sockeye	Port Graham			Lake reared	floatplane
Chenik Lake	Sockeye	Crooked Crk	0			
Kirschner Lake	Sockeye	Crooked Crk	300,000	Fry	Direct released	aerial
Hazel Lake	Sockeye	Crooked Crk	0			
Leisure Lake a/	Sockeye	Crooked Crk	0			
Bruin Lake	Sockeye	Crooked Crk	0			
Ursus Lake	Sockeye	Crooked Crk	0			
Upper Paint	Sockeye	Crooked Crk	0			
Lower Paint	Sockeye	Crooked Crk	0			
Halibut Cove a/	Chinook	Elmendorf	107,400	Smolt	Short-term reared	truck/barge
Homer Spit a/	Chinook	Elmendorf	191,828	Smolt b/	Short-term reared	truck
Homer Spit a/	Chinook	Crooked Crk	157,000	Smolt c/	Short-term reared	truck
Seldovia a/	Chinook	Elmendorf	106,300	Smolt	Short-term reared	truck/barge
Ninilchik R. a/	Chinook	Ft. Richardson	200,000	Smolt	Direct released	truck
Caribou Lake a/	Coho	Trail Lakes	64,000	Fingerling	Direct released	aerial
Homer Spit a/	Coho	Elmendorf	156,200	Smolt	Short-term reared	truck

a/ These releases are targeted or have substantial sport fisheries.

b/ Early run brood stock.

c/ Late run brood stock.

Appendix A.4.

Table 2. 1994 Adult Salmon Returns from Enhancement Projects, Lower Cook Inlet.

Project	Species	Hatchery Origin	Total Number Returned	Commercial Harvest	Sport & Pers. Use Harvest	% of Commercial Southern District	Entire LCI
Tutka Lagoon/ Halibut Cove	Pink	Tutka Lagoon	1,779,214 b/	1,557,268	2,000	98	92.6
Homer Spit	Pink	Tutka Lagoon	-	NA	-	Discontinued	
Tutka Lagoon	Chum	Tutka Lagoon	-	-	-	Discontinued	
Leisure Lake/ Hazel Lake	Sockeye	Crooked Creek	69,950	59,950	9,000	93	52
Port Dick Lake	Sockeye	Crooked Creek	-	-	-	Discontinued	
Kirschner Lake	Sockeye	Crooked Creek	31,252	31,252	ND	NA	27
Chenik Lake a/	Sockeye	Crooked Creek	1,000	0	100	NA	<1
Bruin Lake	Sockeye	Crooked Creek	5,615	615	ND	NA	<1
Halibut Cove	Chinook	Elmendorf	2,500	500	2,000		
Homer Spit	Chinook	Elmendorf	3,500	NA	3,500	NA	NA
Seldovia Bay	Chinook	Elmendorf	2,300	400	2,700		
Homer Spit	Coho	Elmendorf	8,000	NA	8,000	NA	NA
Caribou Lake	Coho	Trail Lakes	5,000	NA	5,000	NA	NA
Seldovia Lake	Coho	Trail Lakes	200	ND	150	NA	NA
Total for all Projects			1,908,531	1,649,985	32,350		92.6%

a/ Represents natural production resulting from stocking projects conducted in 1978-1981, as well as annual fry stocking.

b/ Total return represents harvest, cost recovery, hatchery brood stock, and Tutka Cr. escapement.

ND - No Data

NA - Not Applicable

Table 3. Projected 1995 adult salmon returns from enhancement projects in lower Cook Inlet.

PROJECT	SPECIES	NUMBER RELEASED	RELEASE YEAR AND TREATMENT	PROJECTED SURVIVAL %	ESTIMATED 1995 RETURNS
TUTKA LAGOON HATCHERY	PINK	61.0 MIL./FN	1994 SR	1.0 - 4.0	610,000-2,440,000
HALIBUT COVE LAGOON	CHINOOK	92,000 /SM	1991 SR	0.5	460
		117,800 /SM	1992 SR	1.5	1,800
		100,300 /SM	1993 SR	0.5	500
				Subtotal	2,760
	PINK	0	NO RELEASE		0
HOMER SPIT	COHO	145,000 /SM	1994 SR	4.0 - 8.0	5,800-11,600
	CHINOOK (early)	191,000 /SM	1991 SR	0.5	1,000
		226,300 /SM	1992 SR	1.5	3,400
		212,400 /SM	1993 SR	0.5	1,000
				Subtotal	5,400
	CHINOOK (late)	126,200 /SM	1992 SR	0.5	600
		100,000 /SM	1993 SR	0.3	300 900
LEISURE LAKE	SOCKEYE	2.0 MIL./FR	ANNUAL		50,000-80,000
HAZEL LAKE	SOCKEYE	1.5 MIL./FR	ANNUAL		30,000-60,000

LIFESTAGE OF RELEASES: FR = fry; FN = fingerling; SM = smolt; AD = adult
TREATMENT: DR = direct release; SR = short-term rearing; ES = adult escapement

Table 3 (Cont.). Projected 1995 adult salmon returns from enhancement projects in lower Cook Inlet.

PROJECT	SPECIES	NUMBER RELEASED	RELEASE YEAR AND TREATMENT	PROJECTED SURVIVAL %	ESTIMATED 1995 RETURNS
PORT DICK LAKE	SOCKEYE	Stocking Discontinued			0
CHENIK LAKE	SOCKEYE	1.4-2.5 MIL./FR	ANNUAL	a/	3,000-6,000
KIRSCHNER LAKE	SOCKEYE	250,000 /FR	ANNUAL		20,000-40,000
BRUIN LAKE	SOCKEYE	250,000-500,000 /FR	ANNUAL		5,000-8,000
URSUS LAKE	SOCKEYE	250,000/FR	ANNUAL		5,000-8,000
PAINT RIVER	SOCKEYE	0.8-1.5 MIL./FR	ANNUAL	b/	500-1,000
CARIBOU LAKE	COHO	150,000/FN 150,000/FN	1992DR 1993DR	1.0 3.0	1,500 Subtotal 4,500 6,000
SELDOVIA LAKE	COHO	50,000/FN	RESIDUAL		200-500
SELDOVIA BAY	CHINOOK	91,000/SH 113,000/SH 106,500/SH	1991DR 1992SR 1993SR	0.5 1.5 0.5	500 1,700 Subtotal 500 2,700
TWIN FALLS	CHINOOK	100,000/SH	1993SR	0.3	300
TOTAL PROJECTED ADULT RETURNS					753,360 - 2,673,160

LIFESTAGE OF RELEASES: FR=fry; FN=fingerling; SH=smolt; AD=adult
TREATMENT: DR=direct release; SR=short-term rearing; ES=adultescapement

a/ - Smolt studies in 1991-94 indicated low fry to smolt survival, probably due to IHNV.

b/ - Past survival has been very poor for unknown reasons.

1995 HERRING FORECAST

The 1995 Kamishak Bay herring forecast is 21,998 short tons with a total projected harvest of 3,300 tons.

Age	1995 Inshore Abundance (millions)	Proportion by Numbers	Predicted Mean Wt (g)	1995 Forecast Biomass (tons)	Harvest Rate	1995 Total Allowable Harvest	Proportion by Weight
3	16.3	0.16	84	1,507	0.15	226	0.07
4	0.0	0.00	126	0	0.15	0	0.00
5	3.5	0.04	161	628	0.15	94	0.03
6	5.0	0.05	195	1,067	0.15	160	0.05
7	56.1	0.57	220	13,612	0.15	2,042	0.62
8	7.2	0.07	241	1,911	0.15	287	0.09
9	2.4	0.02	255	675	0.15	101	0.03
10	1.3	0.01	275	387	0.15	58	0.02
11	4.1	0.04	283	1,289	0.15	193	0.06
12	1.8	0.02	284	556	0.15	83	0.03
13	0.1	0.00	327	40	0.15	6	0.00
14	0.5	0.01	306	179	0.15	27	0.01
15	0.2	0.00	293	78	0.15	12	0.00
16	0.2	0.00	297	69	0.15	10	0.00
Total	98.8		202	21,998		3,300	

Allocation of the projected harvest would be as follows:

	Exploitation Rate	Harvest (tons)
Kamishak Bay Sac Roe Fishery	0.135	2,970
Shelikof Straits Bait Fishery	0.015	330
Total	0.150	3,300

Appendix B.1.

Central Region Groundfish Staff Meeting Draft Agenda.

I. 1994 Fishery Review/1995 Outlook & Management Strategies

A. Cook Inlet

1. Pacific cod
2. Sandfish
3. Pollock

B. Prince William Sound

1. Pacific Cod
2. Sablefish
 - a. Limited Entry
3. Pollock
4. Rockfish
5. Other

C. North Gulf

1. Pacific Cod
2. Rockfish
3. Sablefish
4. Lingcod
 - a. State vs. Fed waters
 - b. Resurrection Bay Closure
5. Other?

D. Enforcement Issues

- a. Rockfish harvest areas

II. Reports and Assessment Projects

A. Reports

1. AMR
2. Flatfish Report
3. The "elusive" Cook Inlet P. Cod report
4. Rockfish Summary
5. Age Lab summaries

Appendix B.1 (continued).

B. 95-96 Assessment Projects

1. Groundfish/Shellfish Surveys
 - a. Kachemak Bay Shrimp
 - b. Kachemak Bay Crab/Groundfish
 - c. Kamishak Bay Crab/Groundfish
 - d. Prince William Sound Crab/Groundfish
 - e. Prince William Sound Shrimp
2. Prince William Sound pollock - Summary to NPFMC?
3. CMI Flatfish Study
4. CMI P. Cod Survey - Central Inlet
5. Prince William Sound P. cod - ongoing and ideal

C. Seasonal Staff

1. Shared w/PWS Shellfish
2. CMI funded

III. Board of Fisheries

A. March Statewide Meeting

1. Bycatch provision by E.O.
2. K. Adams Proposal for greater state management

B. Cook Inlet/North Gulf Proposals for 1995/96 Meeting Year

1. Pot Closure Area
2. Non-Pelagic Trawl Closure North of Anchor Point
3. Rockfish changes - from public

IV. Other Issues

A. Cook Inlet Jurisdiction

B. IFQs

C. Other???

Appendix B.2.

Table 3. Central Region commercial groundfish harvests by gear type and month (A) during 1994 and by gear type and year (B) during 1987-1994.

A. Monthly harvests during 1994

Month	Round Weight (lb)				Total
	Longline	Pot	Jig	Other	
January	134,171	771,213	12,472		917,856
February	632,805	1,467,867	33,674		2,134,346
March	960,408	1,100,830	12,171	746	2,074,155
April	57,439	147,389	87,338		292,166
May	304,131	12,313	8,378	764	325,586
June	86,274		5,549		91,823
July			6,166		6,166
August			8,583		8,583
September	108,191				108,191
October	2,579		25,994	974	29,547
November			3,780	1,728	5,508
December			1,996		1,996
Total	2,285,998	3,499,612	206,101	4,212	5,995,923

	Number of Vessels and Landings				Total
	Longline	Pot	Jig	Other	
Vessels ^a	171	20	28	2	204
Landings	482	311	96	6	895

^a Some vessels fished more than one gear type during a given year.

B. Annual harvests during 1987-1994.

Year	Percentage of Total Weight Landed				Effort		Total Lbs
	Longline	Pots	Jig	Other	Vessels	Landings ^a	
1987	87.2%	0.6%	3.1%	10.0%	324	1,250	2,877,749
1988	90.8%	1.3%	6.2%	1.7%	171	634	1,608,200
1989	94.5%	0.2%	4.2%	1.1%	60	208	459,046
1990	89.1%	3.0%	2.8%	5.1%	211	798	2,445,912
1991	57.3%	36.6%	5.5%	0.6%	273	1,127	6,123,923
1992	64.1%	33.9%	1.4%	0.6%	351	1,782	9,386,327
1993	54.0%	44.5%	0.8%	0.7%	225	922	6,939,712
1994	38.1%	58.4%	3.4%	0.1%	221	834	5,995,923

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1993	54.0%	44.5%	0.8%	0.7%	225	922	6,939,712
1994	38.1%	58.4%	3.4%	0.1%	221	834	5,995,923

Table 4. Landings and exvessel value of Central Region groundfish harvests during 1987 to 1994.

Year	Rockfish	Sablefish	Pacific cod	Flounders	Other	Lingcod	Total
1987 Harvest							
Round Weight (lb)	279,740	227,362	2,111,306	163,238	69,849	26,254	2,877,749
Price (\$/lb)	\$0.31	\$0.64	\$0.24	\$0.28	\$0.25	\$0.45	
Value	\$86,719	\$145,512	\$506,713	\$45,707	\$17,462	\$11,814	\$813,928
1988 Harvest							
Round Weight (lb)	299,397	398,548	849,314	17,875	16,425	26,641	1,608,200
Price (\$/lb)	\$0.33	\$0.99	\$0.24	\$0.35	\$0.28	\$0.34	
Value	\$98,801	\$394,563	\$203,835	\$6,256	\$4,599	\$9,058	\$717,112
1989 Harvest							
Round Weight (lb)	140,683	194,430	110,579	11	5,037	8,306	459,046
Price (\$/lb)	\$0.41	\$0.89	\$0.21	\$0.10	\$0.16	\$0.36	
Value	\$57,680	\$173,043	\$23,222	\$1	\$806	\$2,990	\$257,742
1990 Harvest							
Round Weight (lb)	537,010	228,360	1,581,427	72,986	12,131	13,998	2,445,912
Price (\$/lb)	\$0.38	\$0.69	\$0.24	\$0.22	\$0.12	\$0.36	
Value	\$204,064	\$157,568	\$379,542	\$16,057	\$1,456	\$5,039	\$763,727
1991 Harvest							
Round Weight (lb)	373,322	458,729	5,198,745	4,560	3,954	84,613	6,123,923
Price (\$/lb)	\$0.28	\$0.91	\$0.28	\$0.23	\$0.46	\$0.37	
Value	\$104,530	\$417,443	\$1,455,649	\$1,049	\$1,819	\$31,307	\$2,011,797
1992 Harvest							
Round Weight (lb)	528,973	601,365	8,205,549	2,225	17,416	30,799	9,386,327
Price (\$/lb)	\$0.32	\$0.93	\$0.24	\$0.19	\$0.35	\$0.29	
Value	\$169,271	\$559,269	\$1,969,332	\$423	\$6,096	\$8,932	\$2,713,322
1993 Harvest							
Round Weight (lb)	165,668	486,361	6,239,067	766	32,518	15,332	6,939,081
Price (\$/lb)	\$0.36	\$0.95	\$0.22	\$0.22	\$0.53	\$0.38	
Value	\$59,640	\$462,043	\$1,372,595	\$166	\$17,235	\$5,826	\$1,917,507
1994 Harvest							
Round Weight (lb)	319,184	408,518	5,211,990	608	28,043	27,580	5,995,923
Price (\$/lb)	\$0.39	\$1.82	\$0.25	\$0.50	\$0.82	\$0.36	
Value	\$125,421	\$743,503	\$1,302,998	\$304	\$22,895	\$9,929	\$2,205,049

Table 5. Annual effort, harvest, and exvessel value of the commercial sablefish fishery in Prince William Sound during 1984-1994.

Year	Vessels	Landings	Harvest		Price \$/lb	Exvessel Value	Pounds/ Vessel	Pounds/ Landing	Fishing Season	
			Pounds	Tonnes					Opened	Closed
1984	20	37	109,920	50	0.46	\$50,673	5,496	2,971	1/01	12/31
1985	29	108	383,290	174	0.60	\$229,974	13,217	3,549	1/01	11/20
1986	32	36	189,850	86	0.63	\$119,606	5,933	5,274	4/01	6/21
1987	71	120	205,350	93	0.64	\$131,424	2,892	1,711	4/01	6/25
1988	53	147	222,206	101	0.99	\$219,984	4,193	1,512	4/01	7/21
1989	26	98	190,633	86	0.89	\$169,663	7,332	1,945	6/12	12/31
1990	70	257	213,974	97	0.69	\$147,642	3,057	833	4/01	8/07
1991	72	147	331,314	150	0.91	\$301,496	4,602	2,254	5/15	6/22
1992	54	119	438,301	199	0.93	\$406,620	8,117	3,683	5/15	6/01
1993	55	87	313,976	141	0.95	\$298,277	5,709	3,609	5/17	6/12 ^a
1994	55	92	279,292	127	1.82	\$508,311	5,078	3,036	5/23	6/07 ^a

^aTotal fishing time was 96 hours during each of the 1993 and 1994 seasons.

Appendix C.1.

Cook Inlet and Prince William Sound Shellfish Staff Meeting Agenda.

I. Cook Inlet shellfish

A. 1994/95 fishery, stock status, 1995 stock assessment and anticipated 1995/96 fishery overviews

1. Tanner - Kimker
 - a. Current stock status and justification for season closure in 1995.
 - b. 1995 stock assessment and anticipated results.
 - c. Anticipated 1996 Kamishak Tanner fishery and need for an emergency regulation pot limit.
2. Dungeness - Kimker
 - a. Current stock status and justification for season actions in 1995 for both Southern and Central Districts.
 - i. Shell collection data and interpretation.
 - b. 1995 stock assessment including pot and trawl surveys as well as shell and ring net collections, and anticipated results.
 - c. Probability of 1995 fishery by District and justification.
 - d. Management plan status.
 - e. Recreational fishery problems.
3. King crab - Kimker
 - a. Status and outlook in a nutshell - depressed.
4. Urchins and Cukes - Kimker
 - a. Historical review of fisheries and insights on stock status,
 - b. 1995/96 fisheries and evolving management strategies.
5. Scallops
 - a. 1994 Kamishak season - Gustafson
 - b. Stock status - Gustafson
 - c. 1995 fishery management - Kimker
6. Hardshell clams
 - a. 1994 season - Kimker
 - i. Problems with Board action versus delay in DEC certification.
 - b. 1995 fishery management - Kimker
 - i. Bear Cover issue
 - ii. Catch and management to date.
 - iii. What's left.
 - c. Stock status based on population assessment surveys and fish ticket/logbook information - Gustafson
 - d. 1995 stock assessment - Gustafson
 - i. Sport fish division assistance.
7. Shrimp
 - a. Southern District shrimp stock status, 1995 survey and anticipated results - Gustafson
 - b. Outer and Eastern District
 - i. 1994 season - Gustafson
 - ii. 1994 survey - Gustafson
 - iii. 1995 fishery management - Kimker

B. King and Tanner proposals for 1996 Board of Fisheries.

II. Prince William Sound - Trowbridge

A. Trawl shrimp

1. 1994 season overview
2. 1995 fishery management
 - a. Need for preseason guideline based on declining pop. estimates.
 - b. Observer coverage.

B. Pot shrimp

1. 1994 closure.
2. 1994 survey and resultant 1995 management.
3. 1995 survey plan.

C. Scallops

1. 1995 season overview.
 - a. Kayak Is.
 - b. Remainder of PWS Mgt. Area.
2. Stock status
 - a. Potential 1995 Kayak Is. stock assessment
 - i. Utility vs. cost.
 - b. Historical observer data including shell collections.
3. 1996 season outlook
 - a. Kayak Is. and PWS.

D. Dungeness

1. Stock status - 1994 Copper River survey and historical commercial catch.
2. 1994 season - Copper River and remainder of PWS
3. 1995 Copper River Survey
 - a. Addition of tagging project.

E. Tanner

1. Stock status
2. 1995 trawl survey and outlook for 1996 season.

F. King crab

1. Overview of 1994 brown king crab fishery.

G. Urchins, cukes and clams

1. What's happening.

H. Cordova office costs

I. King and Tanner crab proposals for 1996 Board of Fisheries

III. Miscellaneous

- A. Central Region groundfish/shellfish reorganization - Brady
- B. How can we make things better - Everybody

Appendix A. Tanner crab catch (pounds) by season, Cook Inlet Management Area, 1968-94.

Season	Southern	Vessels	Kamishak/ Barren Is.	Vessels	Outer/ Eastern	Vessels	Central	Vessels	Total catch	Total vessels
1968-69	1,388,282		12,398		816				1,401,496	
1969-70	1,147,154		71,196		104,191				1,322,541	
1970-71	1,046,803		541,212		3,000				1,591,015	
1971-72	2,462,956		974,962		804,765				4,242,683	
1972-73	2,935,662		3,361,023		1,266,023				7,562,708	
1973-74	1,387,535		4,689,251		1,891,021				7,967,807	
1974-75	967,762		2,150,462		656,660				3,774,884	
1975-76	1,339,245		3,281,084	17	850,964				5,471,293	57
1976-77	2,009,633	35	1,765,926	24	824,520				4,600,079	67
1977-78	2,806,568	55	2,077,092	28	502,049				5,385,709	92
1978-79	2,323,420	75	2,713,339	27	694,728				5,731,487	77
1979-80	1,134,940	68	3,338,623	24	595,645				5,069,208	68
1980-81	1,047,630	46	1,757,331	20	463,201				3,268,162	52
1981-82	548,529	41	1,286,332	18	524,897	9			2,359,758	51
1982-83	584,908	48	1,693,794	20	682,919	20			2,961,621	65
1983-84	996,763	45	1,373,674	17	443,384	14			2,813,821	71
1984-85	1,229,298	83	1,535,547	19	259,083	7			3,023,928	86
1985-86	1,164,261	103	1,288,711	24	177,041	5			2,630,013	109
1987	1,077,379	87	1,111,339	21	251,174	13	7,771	2	2,447,663	95
1988	944,763	127	417,182	24	168,969	23	8,396	3	1,539,310	137
1989	CLOSED	--	CLOSED	--	CLOSED	--	CLOSED	--	0	--
1990	CLOSED	--	422,037	7	CLOSED	--	CLOSED	--	422,037	7
1991	271,379	68	266,106	8	CLOSED	--	CLOSED	--	537,485	71
1992	354,868	110	CLOSED	--	53,049	16	CLOSED	--	407,917	121
1993	534,003	136	CLOSED	--	CLOSED	--	CLOSED	--	534,003	136
1994	284,676	110	CLOSED	--	CLOSED	--	CLOSED	--	284,676	110
1995	Closed									
Average ^a	1,082,064	77	1,509,645	20	433,897	13	8,084	3	2,594,404	83

a/ Since inception of minimum legal size between the 1976-77 season.
Does not include closed seasons.

~~Table C.3.1~~ Dungeness crab catch by year, Cook Inlet Management Area,
1961-1994

Year	Southern district catch (lbs.)	Other districts catch (lbs.)	Total catch (lbs.)	No. of vessels	No. of landings
1961	193,683	0	193,683	12	189
1962	530,770	0	530,770	15	269
1963	1,665,599	11,605	1,677,204	50	1,360
1964	417,005	6,036	423,041	22	341
1965	74,211	0	74,211	14	105
1966	12,523	117,037	129,560	5	28
1967	7,168	0	7,168	2	13
1968	484,452	3,407	487,859	7	224
1969	49,894	0	49,894	9	41
1970	209,819	0	209,819	10	50
1971	97,161	0	97,161	22	136
1972	38,930	0	38,930	24	206
1973	308,777	1,271	310,048	54	625
1974	718,729	2,514	721,243	38	619
1975	361,893	922	362,815	34	402
1976	118,903	395	119,298	19	123
1977	74,195	510	74,705	18	94
1978	1,212,571	3,208	1,215,779	49	668
1979	2,130,963	0	2,130,963	72	1,485
1980	1,875,281	0	1,875,281	54	1,183
1981	1,850,977	0	1,850,977	88	2,047
1982	818,380	505	818,885	108	2,310
1983	746,585	834	747,419	71	1,194
1984	799,638	570	800,208	102	1,687
1985	1,389,891	12,511	1,402,402	106	1,768
1986	550,968	12,894	563,862	83	1,069
1987	761,423	21,753	783,176	100	1,377
1988	677,334	41,941	719,275	84	1,305
1989	170,266	7,798	178,064	43	455
1990	28,938	564	29,502	23	112
1991	Season closed	0	0	0	0
1992	Season closed	Confidential	Confidential	1	
1993	Season closed	Confidential	Confidential	1	

Note: Average catch 1978-1990 = 1.01 million pounds per year.

1994 Season closed

Appendix C.4.

King crab catch in pounds by season, Cook Inlet
Management Area, 1960-94.

Season	District			Total Catch	Number of Vessels
	Southern	Kamishak/ Barren Is.	Outer/ Eastern		
1960-61	2,699,680	986,551	118,067	3,804,298	
1961-62	1,619,642	3,642,500	368,909	5,631,051	
1962-63	2,769,343	5,509,708	343,505	8,616,556	
1963-64	1,960,426	4,915,303	59,352	6,935,081	
1964-65	1,892,479	1,850,572	963	3,744,014	
1965-66	1,948,012	1,684,346	14,491	3,646,849	
1966-67	1,347,904	1,386,008	89,510	2,823,422	
1967-68	1,117,394	1,883,605	239,518	3,240,520	
1968-69	750,906	1,711,296	87,302	2,549,504	
1969-70	1,464,721	1,688,803	73,644	3,227,168	
1970-71	1,540,018	2,115,991	9,468	3,665,477	
1971-72	1,992,224	2,868,315	12,657	4,873,197	
1972-73	1,391,024	2,756,023	1,966	4,149,013	
1973-74	1,971,841	2,236,131	5,613	4,213,585	
1974-75	1,816,512	2,965,310	2,035	4,783,857	
1975-76	1,674,872	1,832,484	45,293	3,552,649	
1976-77	1,035,316	3,103,895	16,384	4,155,595	
1977-78	584,090	1,099,279	1,350	1,684,719	74
1978-79	664,388	480,261	1,753	1,146,402	89
1979-80	853,584	489,365	4,871	1,347,820	82
1980-81	508,670	1,635,922	8,022	2,152,617	50
1981-82	183,899	1,371,821	4,142	1,559,863	53
1982-83	CLOSED	807,079	15,280	822,359	27
1983-84	CLOSED	188,027	4,504	192,531	17
1984-85	CLOSED	CLOSED	CLOSED	0	--
1985-86	CLOSED	CLOSED	CLOSED	0	--
1986-87	CLOSED	CLOSED	CLOSED	0	--
1987-88	CLOSED	CLOSED	CLOSED	0	--
1988-89	CLOSED	CLOSED	CLOSED	0	--
1989-90	CLOSED	CLOSED	CLOSED	0	--
1990-91	CLOSED	CLOSED	CLOSED	0	--
1991-92	CLOSED	CLOSED	CLOSED	0	--
1992-93	CLOSED	CLOSED	CLOSED	0	--
1993-94	CLOSED	CLOSED	CLOSED	0	--
1994-95	CLOSED				

Note: Average pre 1984-85 closure catch = 3.44 million pounds per year.

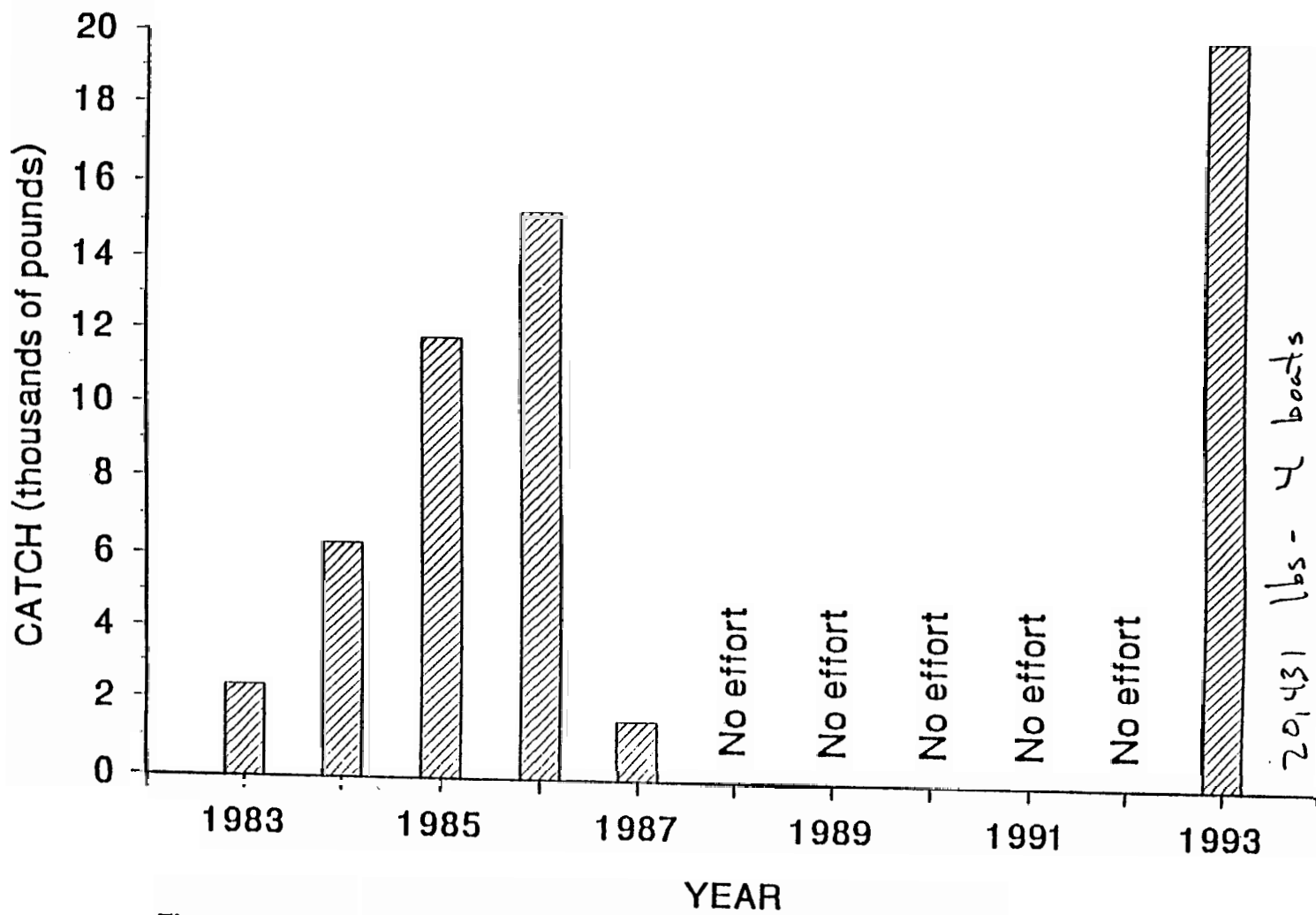


Figure 16. Weathervane scallop harvest by year, Kamishak Distr.,
Cook Inlet Management Area, 1983-1993.

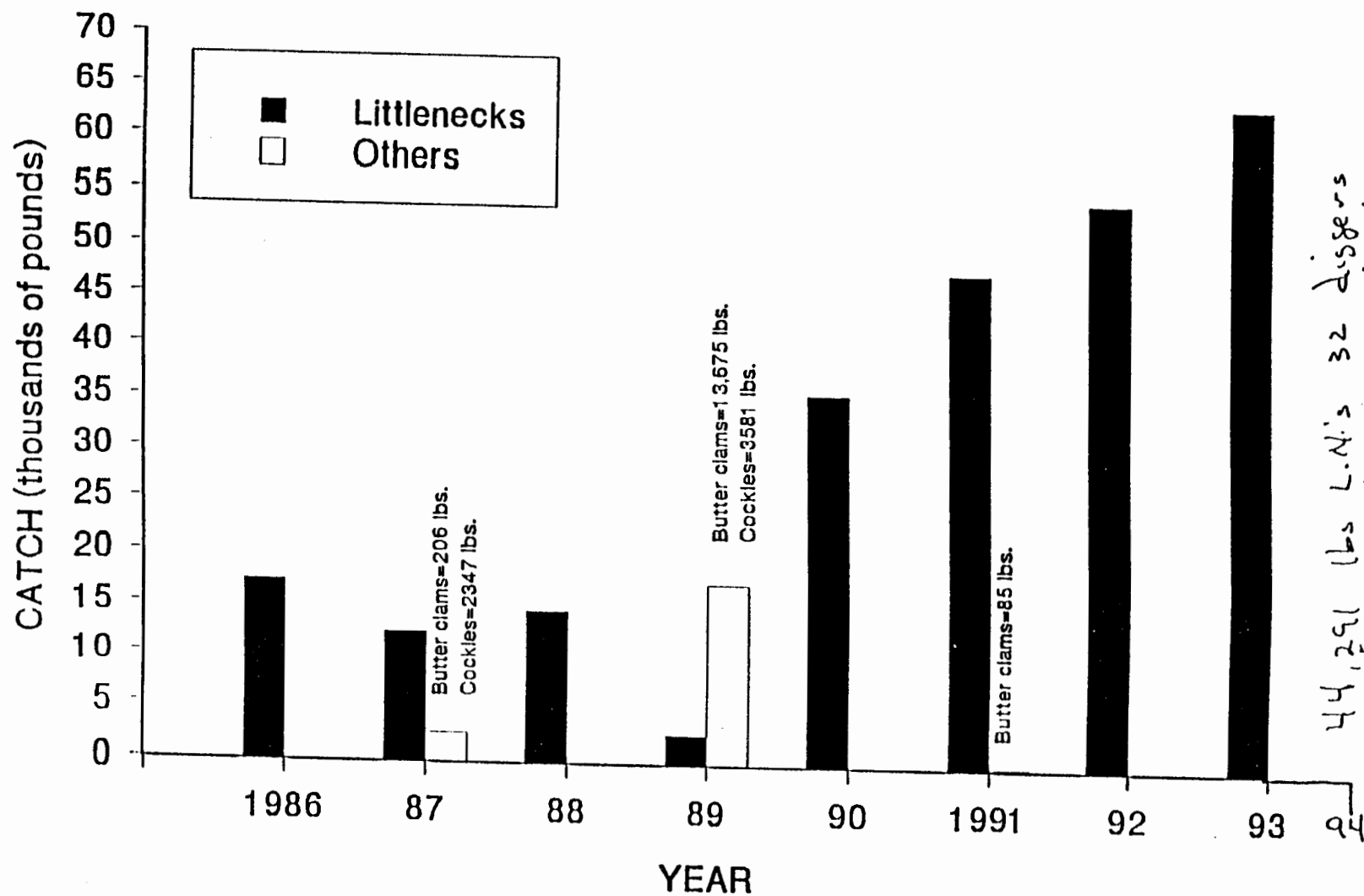


Figure 18. Hardshell clam harvest, Cook Inlet Management Area, 1986-93.

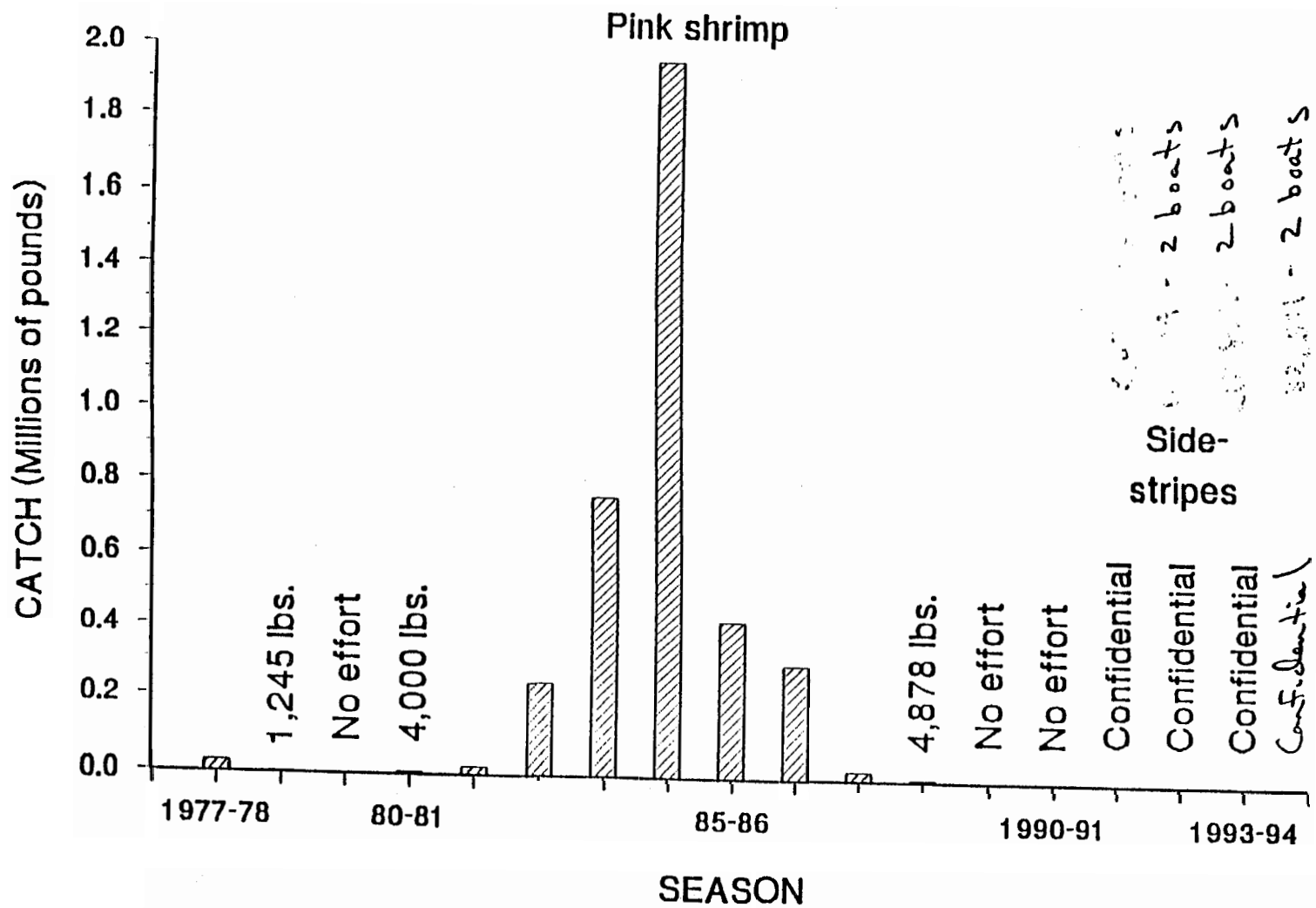


Figure 13. Trawl shrimp catch by season, Outer Cook Inlet, Cook Inlet Mgt. Area (G), 1977-1994

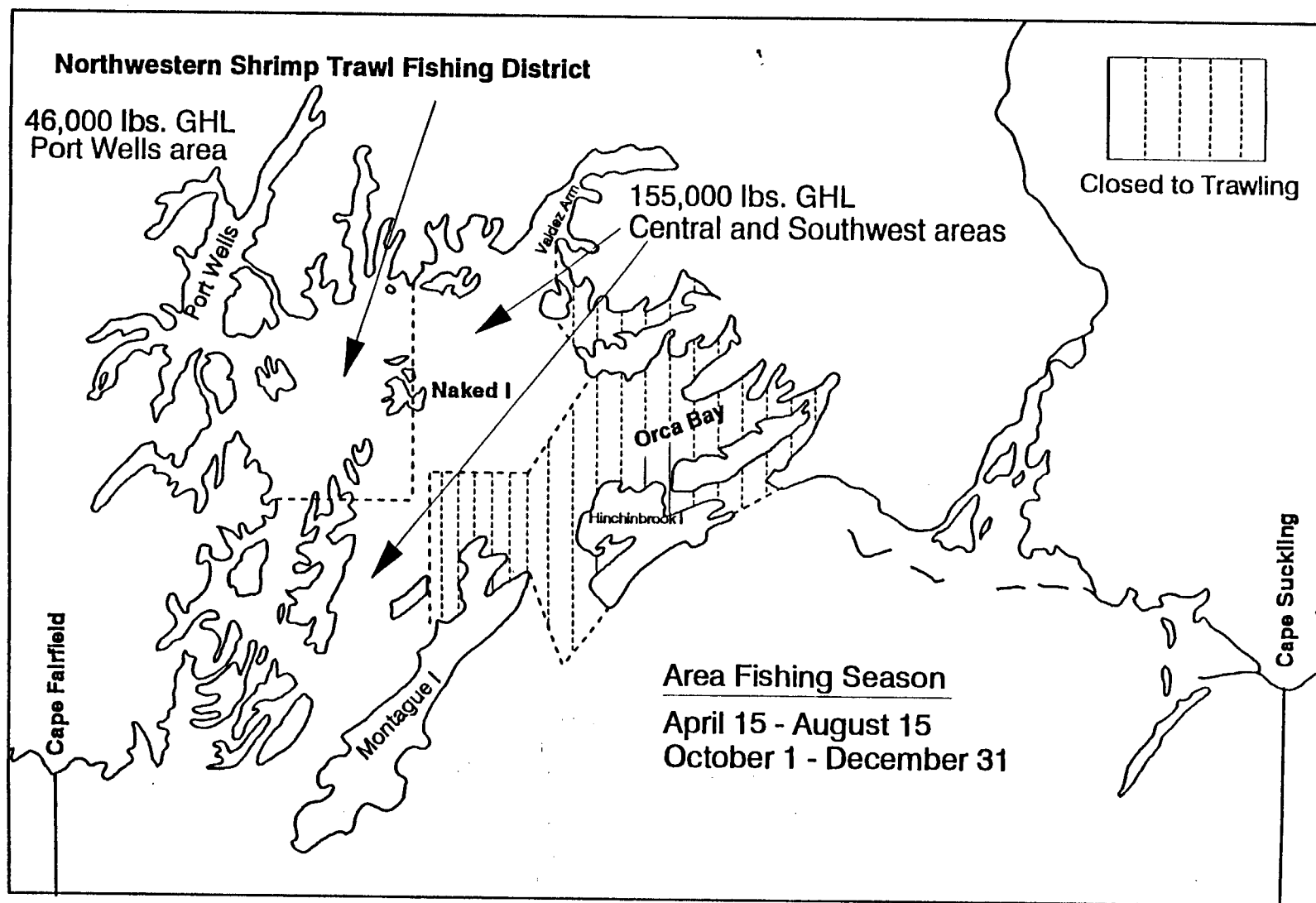


FIGURE 1. Prince William Sound trawl shrimp fishing areas and seasons.

Table 1. Trawl shrimp harvest, Prince William Sound Management Area 1972 - 1994.

Year	Vessels							Pounds
1972								5,153
1973								4,243
1974								1,345
1975								26,961
1976								134,115
1977								170,757
1978	8							440,684
1979	4							634,518
1980	6							557,328
1981	4							70,560
1982	9							346,517

Year	Vessels	Landings	Pink	Sidestripes	Other	Deadloss	Total
1983	13	46	420,275	1,058	2,345	—	423,678
1984	14	55	1,292,643	8,842	1,155	—	1,302,640
1985	6	44	432,514	15,696	440	—	448,650
1986	3	44	218,156	27,701	13	—	245,870
1987	2	109	275	95,043	440	—	95,758
1988	4	99	497	111,898	52	—	112,447
1989	*	*	*	*	*	—	*
1990	4	89	3,348	105,795	15	18,303	127,461
1991	5	67	3,453	84,483	193	51,429	139,558
1992	5	70	651	196,467	28	49,097	246,243
1993	7	72	23	190,976	51	55,140	246,190
1994	6	47	749	85,980	0	24,134	110,863

(*) Catch data is confidential due to the small number of participants.

Table 2. Copper River District Dungeness crab survey average catch per pot and commercial catch, August 1985 - 1994.

Year	Number of Pots	Legal Crabs	True Recruits	Sublegal Crabs	Newshell Sublegal	Fishery Catch	Fishery % Recruits	Effort
1985	N/A					1,006,196	63	17
1986	65	16.0	12.1 (76%)	10.8	3.8 (35%)	1,090,477	58	16
1987	80	9.9	4.3 (43%)	13.1	5.9 (45%)	887,713	34	13
1988	80	8.0	4.8 (60%)	11.8	4.1 (35%)	602,969	52	8
1989	N/A					635,976	25	9
1990	80	8.3	3.0 (36%)	8.6	1.9 (22%)	397,913	36	17
1991	80	3.5	2.2 (63%)	12.6	3.2 (25%)	70,259	62	14
1992	80	1.1	0.3 (27%)	10.0	3.4 (34%)	2,458		confidential
1993	37	3.5	1.6 (46%)	15.8	4.5 (28%)	SEASON	CLOSED	0
1994	78	1.4	0.3 (21%)	9.2	3.1 (34%)	SEASON	CLOSED	0

Table xx. Tanner crab population estimates in numbers of crab by sex size and age class, 1991 to 1993 Prince William Sound trawl surveys.

	1991 Population estimate (no.)	1992 Population estimate (no.)	1993 Population estimate (no.)	1994 Population estimate (no.)
<u>MALES</u>				
<73 mm	620,890	522,363	406,364	581,695
73 - 92	537,060	287,565	95,881	70,772
93 - 112				
new	215,572	367,261	98,978	34,103
old & vo	40,529	90,965	92,826	85,066
113 - 134 mm				
new	70,933	135,806	108,525	18,154
old & vo	145,542	158,309	134,404	155,455
135 - 157 mm				
new	20,280	9,474	54,420	4,015
old & vo	81,057	53,397	51,453	46,562
≥158				
new	935	843	0	0
old & vo	2,773	1,600	2,751	627
Total Legal Males	105,045	65,314	108,624	51,204
Total Males	1,735,570	1,657,583	1,045,602	996,449
<u>FEMALES</u>				
Juveniles	1,128,480	613,447	403,803	609,771
Adults	516,811	808,266	296,547	211,894
Total Females	1,645,292	1,421,713	700,350	821,665

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